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Worldwide Report

ENVIRONMENTAL QUALITY

No. 355

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9 June 1982

WORLDWIDE REPORT ENVIRONMENTAL QUALITY

No. 355

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ENVIRONMENT DEGRADED BY IMPACT OF MILITARISM

LD120813 Moscow TASS in English 0740 GMT 12 May 82

[Text] Moscow, 12 May, TASS -- One cannot automatically explain man's impact on nature which is acquiring threatening proportions with the progress of the civilisation, or with the scientific and technological revolution, while disregarding specific objective laws operating in various social and economic formations.

The destruction of nature, the newspaper PRAVDA writes today, acquired an especially great scope in the past decades, because of the accelerating process of militarisation of the economies of capitalist states and the arms race linked with it.

Citing facts of an adverse impact of militarism on the natural environment, the paper stresses that it starts with the deflection of huge material and intellectual resources to the production of means of destruction. The record in building up military expenditures belongs to the United States, the world's most militaristic state.

The Reagan administration marked its first year in office by presenting the electorate with a "gift" of sorts: military expenditures for 1982 fiscal year stand at 219 billion dollars, and in the next five years they will total a cool 1,500 billion dollars.

The arms race demands huge expenditures of raw materials and energy resources. This constitutes a heavy burden for society and puts additional load on nature. Specifically, a steady increase in the share of energy carriers consumed by the military industries and the armed forces worsens the energy crisis through which the capitalist world is living.

In capitalist nations the very character of the military industries, the use of its products, their storage and transportation even at peace-time expose the population and the natural environment on vast expanses of territory to a deadly threat. As a result of a constant use on a colossal scale of radioelectronic radiation to cater for the needs of diverse military installations (including ultra-short waves, microwaves, etc.) The environment is fouled with an "electronic smog". New generation of chemical weapons is in development overseas. Work on biological weapons is continuing. The development of techniques to produce a direct impact on the climate, to influence the physical properties of water, gas and thermal exchanges between the hydrosphere and the atmosphere have long been going on at laboratories in a number of NATO countries.

And the fact that the United Nations General Assembly has proclaimed, despite Washington's position, the historical responsibility of states for the preservation of the Earth's nature, PRAVDA writes in conclusion, demonstrates that a majority of states are determined to work for the solution of this major problem.

CSO: 5000/2116

CLEAN-UP OF HAWKESBURY RIVER POLLUTION WILL BE COSTLY

\$490 Million for Sewerage

Sydney THE SYDNEY MORNING HERALD in English 2 Apr 82 p 3

[Article by Joseph Glascott]

[Text]

The Metropolitan Water, Sewerage and Draining Board is faced with spending \$490 million to deal with pollution and population expansion in the Hawkesbury-Nepean region over the next 18 years.

The board disclosed yesterday its options and costs for the Hawkesbury-Nepean region, following residents' complaints about pollution of the Hawkesbury River.

Treated sewage released into the river system contains high levels of nutrients — oxidised nitrogen and inorganic phosphorus — which lead to excessive growth of algae and quatic plants and reduced oxygen levels in the water.

To relieve the river system of pollution caused by the nutrients will cost the board \$220 million over the next 18 years. To provide additional sewage-treatment plants for an expected population of 900,000 by the year 2000 will cost another \$270 million.

This will probably mean increased water rates for all Sydney householders.

A Government source said yesterday: "This is the price of allowing Sydney to expand without limitation.

"When the former Green Belt planning scheme was disbanded and was replaced by the Sydney Regional Outline Plan it opened up a Pandora's Box of problems."

The State Pollution Control Commission, as a result of pollution studies, is proposing that discharges of treated sewage into the

Hawkesbury contain no more than one milligram per litre of phosphorus and five milligrams per litre of nitrogen.

A State Pollution Control Commission interim report has found that large sections of the river are already under "severe stress" from sewage nutrients.

Mr John Browne, sewage investigating engineer for the Water Board, said yesterday that the options to ease pollution of the Nepean-Hawkesbury system were:

- Install chemical treatment plants to reduce discharge of phosphorus and nitrogen in effluent;

- Duplicate the existing northern or southern sewerage mains and pumping system to carry the effluent to the ocean; or

- Recirculate effluent by pumping it on to land.

Mr Browne said the board had studied closely the re-use of effluent for irrigation and a State Government committee was still making investigations.

But studies had shown that 15,000 to 20,000 hectares would be needed to dispose of effluent from the Hawkesbury-Nepean area. Most suitable land in the region was already committed for residential development.

Mr Browne said duplication of the sewerage main to take Hawkesbury River sewage to the ocean would cost about \$150 million, with another \$30 million for a submarine outfall.

But this would require a tunnel from the Western Suburbs to the coast and the cost would have to be met "in one hit."

"The State Government does not have that kind of money," he said.

Mr Browne said chemical removal of nutrients seemed the only feasible method of relieving the problem in the Hawkesbury.

The nutrient-removal program could be phased in. However, on top of the capital costs of \$220 million, chemical removal of nutrients would increase the annual costs of running the sewage-treatment plants from \$15 million to \$30 million.

"Until we see the final report of the State Pollution Control Commission we cannot make a final decision," he said.

"But we question whether it is necessary to apply fixed effluent nutrient standards to all sections of the river, especially when the stud-

ies were made in drought times when the river was at its lowest level," he said.

He said the first priority seemed to be to upgrade the large treatment works at St Marys and Quakers Hill. St Marys catered for 150,000 people and Quakers Hill 100,000 people, and were much larger than other plants in the region.

An SPCC scientist said yesterday it was impossible to say at what point the river would become seriously endangered by nutrient levels.

The river water quality was improved with flushing by rain and floods, but was endangered in dry periods.

Criticism of Officialdom

Sydney THE SYDNEY MORNING HERALD in English 1 Apr 82 p 8

[Editorial]

[Text]

ON THE SURFACE, at least, there is evidence that the Hawkesbury River is in danger of becoming a cesspool. This year about 500 cases of impetigo have been reported from people who have swum in the river. Infections (some involving temporary deafness and others golden staph) and blood poisoning have also been reported. Last week a fisherman contracted a water-borne organism related to cholera when it infected a scratch on his leg. The infection was so bad that the fisherman almost lost his leg. As the Hawkesbury is a favourite recreational location for tens of thousands of holiday-makers and picnickers (up to 20,000 people converge on Wisemans Ferry at holiday times), the risk from a badly polluted river is obvious. There is the fact, too, that the Hawkesbury waters are used to spray orchards along its banks. Already there have been reported cases of fruit withering and of leaves going brown and falling off when the river waters have been used.

The official response to the complaints about the polluted river have been low-keyed. The NSW Health Commission admits that it has been concerned for some time about the pollution from the hundreds of houseboats and cruisers that ply the Hawkesbury. With the major pumping discharge facility for boats being in Berowra, boats miles up the river flush into the river. According to

a doctor at Wisemans Ferry, Dr Hughes, there is an urgent need for additional discharge facilities. Dr Hughes believes that unless action is taken now "next summer will be a disaster time on the Hawkesbury River." The Health Commission appears to be unimpressed. The impetigo might be nothing much more than infected mosquito bites, it suggests. But, just to see if there is anything in the pollution charges, the commission intends to conduct a full pollution survey of the river — next summer.

This difference in urgency between Dr Hughes and the commission is matched with a similar difference between the Hawkesbury River residents, farmers and fishermen and the State Pollution Control Commission and the Planning and Environment Department. Both the department and the commission have done studies of the river. The residents' request for the publication of these studies does not seem to be unreasonable.

A paper given last year, based on SPCC tests made during 1979-80, was anything but reassuring (see Joe Glasco's report on page 1).

The further accumulation of evidence, from sources other than governmental agencies, suggests that something is wrong. If there is a problem, something should be done about it now. If there is not a problem, those who live along the river should be given all the facts.

AUSTRALIA

NEW VICTORIAN LABOR GOVERNMENT TO BOOST CONSERVATION

Melbourne THE AGE in English 5 Apr 82 p 18

[Editor's Note: Following the election victory in Victoria of the Australian Labor Party, the Melbourne paper THE AGE on 5 April 1982, page 18, carried a review by topic of the party's campaign pledges. The text of the portion dealing with "conservation" reads:

[Labor has promised to give the Environment Protection Authority more resources to monitor illegal discharges and prosecute offenders. The fines the EPA can impose will be increased and so will its licence fees. The revenue will finance extra staffing.

[The new Conservation Minister, Mr Walker, has said Labor will review the EPA. It also will provide legal aid to third parties involved in environment protection appeals.

[Labor has said it will legislate to ensure the marketing of lead-free petrol by 1985; implement urgently a comprehensive strategy for disposal of toxic chemical wastes; legislate to protect native flora and fauna, especially the helmeted honeyeater and lead-beater's possum and their habitats; and expand the Alpine national parks system, adding to the Kosciusko alpine park.]

CSO: 5000/7537

SYSTEM 6 REPORT FOR WEST AUSTRALIA STALLED BY PUBLIC COMMENT

Perth THE WEST AUSTRALIAN in English 13 Apr 82 p 20

[Text] **The System 6 report on WA land-use is being slowed down by the task of assessing submissions from the public.**

Public comment on the 350-page report closed on November 30 last year.

But the Government is unlikely to receive recommendations for several months.

The Department of Conservation and the Environment has had three officers working full time collating more than 1500 submissions.

The System 6 report is expected to influence land uses in WA well into the next century.

It covers the coastal plain and the Darling Range between Guilderton and Busselton.

The director of the Department of Conservation and the Environment, Mr Colin Porter, said yesterday the report raised fundamental issues.

"We haven't started to get to grips with some of the issues," he said.

Officers had been working for about five months to bring the public submissions into some sort of order. Some of the submissions were up to 90 pages long.

It would be a long job to assess the issues raised and to classify the submissions. Some had produced reasoned arguments and others expressed opinions.

Field-trips would be necessary to examine some reserves which were the subject of conflicting views.

MONTHS

He thought it would be some months before a report was prepared for the Environmental Protection Authority.

Recommendations might go to the Government towards the end of the year.

- Aquatic reserves, taking in their effect on present recreational professional fishing activities.

- Conservation of native forests, especially jarrah reserves.

- Increasing recreational facilities to include all types of needs, such as off-road vehicle areas.

- Protection of wetland areas from urban and industrial development, particular Star Swamp, Herdsman Lake and the Peel-Harvey estuary.

CSO: 5000/7539

SOIL EROSION TERMED NATION'S BIGGEST CONSERVATION PROBLEM

Brisbane THE COURIER-MAIL in English 6 Apr 82 p 15

[Text]

Dr Roberts, Dean of the Darling Downs Institute of Advanced Education's School of Applied Science and convenor of the Toowoomba Soil Conservation Awareness Group, has appealed for public support to "save our soil" for future generations.

On Queensland's Darling Downs — one of the most fertile regions of the world — some soils would be unproductive within 30 years, he said.

In Central Queensland, some would last less than 20 years without extensive conservation measures.

"Additionally, vast areas of pastoral country are suffering serious — and possibly irreparable — topsoil losses."

Dr Roberts last Friday hosted Queensland Rural Press Club members on a tour of the eastern Downs near Greenmount.

In some cases three fences had been built on top of each other to keep ahead of the silt movement. A bridge which 30 years ago a man on horseback could ride under is today a small-diameter pipe culvert.

Dr Roberts said Primary Industries Department trials had shown sloping country was losing topsoil at a rate of up to 400 tonnes a hectare in heavy summer storms and on average 50 tonnes a ha each year.

The soil washed onto roads and into waterways and spread across flatland cultivation, costing Local Authorities, government departments and farmers millions of dollars in clearing and revegetating.

On the Darling Downs, which supported 7500 farmers and produced 22 crops worth more than \$340 million annually, Dr Roberts said 70 percent of the one million hectares under cultivation was subject to moderate to severe erosion.

In the worst-hit eastern Downs, where productivity had fallen drastically in recent years and left some farmers with gross annual incomes of about \$5000, many were unable to pay the cost of conservation work.

Some farmers on the Downs had been working for 30 years on conservation methods. About 55 percent were working with the D.P.I.'s soil conservation branch on strip cropping, stubble retention, and contour bank construction aimed at reducing the runoff speed of water during storms.

Dr Roberts said new agricultural areas, in marginal parts of southern and central Queensland were being opened up and put under the plough "at a tremendous rate," far outstripping the ability of the D.P.I. to cope.

CSO: 5000/7539

OIL SPILLS KILLING FLORA, FAUNA IN SYDNEY AREA

Sydney THE SYDNEY MORNING HERALD in English 7 Apr 82 p 3

[Article by Joseph Glascott, Environment Writer]

[Text] Oil spills are killing mangroves and sea grasses at Towra Point, a vital habitat for migratory birds and marine life on the southern shores of Botany Bay, according to a Sydney University study.

Only two weeks ago the Minister for Planning and Environment, Mr Bedford, announced that 281 hectares of Towra Point would be preserved as "the most important nature reserve in NSW."

But Sydney University scientists say the death of mangroves threaten the survival of the area.

Towra Point is a habitat for migratory birds from Siberia and Japan which winter in Australia each year.

It has been listed by the United Nations as a world heritage area.

The study was undertaken by two Sydney University scientists, Dr Bill Allaway and Dr Tony Larkum, both senior lecturers in the school of biological science.

Their studies which began in 1979, were financed by grants from the NSW Coastal Council and the State Pollution Control Commission.

Dr Allaway's report says mangrove swamps are highly productive areas important as nurseries for fish, prawns and oysters.

He said yesterday: "The mangroves are essential for the preservation of Towra Point which provides one of the few high-tide roosting areas in Botany Bay where migratory birds can shelter in safety."

Dr Allaway has been studying the effects of oil spills in Botany Bay since the tanker World Encouragement released about 100 tonnes of Arabian crude oil into the bay after being holed in September, 1979.

Shortly after the spill, he mapped areas where oil infiltrated the mangroves.

In spite of clean-up work, oil among the mangroves was difficult to remove, he said.

The worst pollution was averted because the tide was turning and flushed oil from the shoreline.

However, oil from the spill had contaminated Towra Point and Quilbray Bay.

Oil had coated mangrove plants to about a metre above the mud surface at the front of the swamp.

"Where oiling was severe, small seedlings were totally oiled," he said.

"Most of the heavily-oiled seedlings died soon after the spill."

The long-term effect on mature mangrove trees was noticed early in 1980 when mangroves began dying.

Fifty-three mangrove trees at Towra Point had died by May, 1980.

Early in 1981, Botany Bay suffered another oil spill from the Matraville refinery.

The mangroves at Towra Point were affected again.

Dr Allaway said the evidence strongly suggested a connection between oil spills and damage to mangroves.

Dr Larkum has recorded a marked reduction in sea-grass beds in Botany Bay.

"Sea grasses are essential to maintain stability of the bay and are vital in providing food and shelter to an enormous number of filter-feeders such as prawns, oysters and young fish," he said.

"While some die-back of sea grasses can be attributed to bad fishing practices and the oyster industry, the damage has been accelerated by industrial and port developments in Botany Bay in the 1970s and most recently by oil spills."

CSO: 5000/7539

FLUORIDE DANGER FROM USE OF SUPERPHOSPHATES CITED

Melbourne THE AGE in English 6 Apr 82 p 3

[Article by Peter Roberts, science reporter]

[Text]

Superphosphate in use in Victoria's pastoral industry contains potentially dangerous levels of fluorides, according to a Melbourne University chemist.

Professor Tom O'Donnell, a world authority on fluorine chemistry, said yesterday that samples analysed at the university contained up to three per cent (30,000 parts per million) of fluoride particles.

He called for an immediate reduction in fluoride levels and a research effort to determine how much fluoride from superphosphate was being ingested by animals such as sheep and cattle.

"The safe limit for fluoride in fodder is 40 ppm averaged on an annual basis, and 80 ppm on a monthly basis," he said. "The superphosphate being applied contains anything between 10,000 and 30,000 ppm."

Professor O'Donnell, professor of inorganic chemistry at Melbourne University, said fluoride — a constituent of rock phosphate — was in an insoluble form in Australian superphosphate. There was every chance stock could eat the superphosphate as it lay on the ground after spreading.

Fluoride fallout from aluminium smelters has been shown to cause lameness and dental lesions in sheep and cattle. It also is linked to reduced milk output and fertility in dairy cattle.

"I am not saying that stock damage is occurring," Professor O'Donnell said. "I do say that the levels of fluorides in superphosphate are high, and unnecessarily so, and it is a potentially dangerous situation."

Professor O'Donnell said there could be a major problem of hidden symptoms from fluoride in superphosphate . . . hidden because vets would not suspect super to have an adverse effect on stock.

"My attitude is that it is up to the people supplying the material with high fluorine levels to ensure that their product is not dangerous."

Professor O'Donnell said there was no evidence to suggest that sheep and cattle affected by fluoride presented any health risk to humans. "The fluoride almost certainly finishes up in the skeletons and teeth of the animals. Therefore, fluoride wouldn't be eaten by humans at all."

Mr Bob Belcher, the Department of Agriculture's chief chemist, said superphosphate sold in Victoria was required to contain less than 25,000 ppm of fluoride. He said this level had been set in 1975 in conjunction with industry.

Professor O'Donnell said: "I bet it was in consultation with industry . . . that is their dumping method (for fluoride)."

Superphosphate is manufactured in Victoria at Portland and Geelong by the Phosphate Co-operative Company. Marketing under the brand name, Pivot, the company is licensed by the Environment Protection Authority to discharge small amounts of fluoride into the sea. The rest is retained in the superphosphate product.

No company spokesmen have been available for comment. Mr Belcher said the Victorian limit was designed to be a practical level that could be met by manufacturers without prohibitive

costs while still preventing any hazard to the environment. He said there was no danger to stock.

"If superphosphate is fed to stock as a phosphate supplement, as it is sometimes done, then the fluoride level could be high enough to have an adverse effect on them," Mr Belcher said. "We advise against this."

Mr Belcher said the department would take new superphosphate samples and analyse them for

fluoride. He agreed that no research had been done on the fluoride content of fodder in Victoria.

Professor O'Donnell said fluoride removed from superphosphate could be used in smelting Aluminium. Currently Alcoa of Australia buys fluoride from overseas for its Point Henry works at Geelong.

The Minister for Agriculture, Mr Austin, was campaigning in the Stawell region and was not available for comment.

CSO: 5000/7539

WA MONITORING WOODCHIPPING EFFECT ON WATER SUPPLIES

Perth THE WEST AUSTRALIAN in English 1 Apr 82 p 40

[Text]

The Government was monitoring the effects of woodchipping on water supplies in three forest areas, the Minister for Forests, Mr Laurance, said yesterday.

A special monitoring programme called for full logging and regeneration operations with measurements of their hydrological effects.

Two pairs of monitored catchments were in the jarrah forest and one set of three monitored catchments was in the karri.

One of each pair of catchments in the jarrah forest would be left untouched. The others would be measured before and after logging.

One of the karri catchments would be given severe treatment to test the worst possible situation.

Of the other two, one

would be given the standard treatment and the other would remain unlogged.

Mr Laurance said the steering committee inquiring into the effects of the woodchip industry on water resources in the South-West published a report two years ago.

It showed that woodchip operations to that date had not sufficiently affected the quality of the region's water resources to cause concern.

There had been limited monitoring of the forest before woodchip logging and regeneration in the early research, but the areas for the new experi-

mental work had been monitored since 1976.

The programme had been delayed due to a run of dry years and no decision was made to go ahead with logging until after last year's relatively wet winter.

The present study was being carried out by the Forests and Public Works Departments.

It would use data the PWD had collected during the past six years.

The PWD would continue monitoring with high-precision instruments while the Forests Department would try different management programmes on catchments in the three areas.

CSO: 5000/7537

BRIEFS

ALCOA POLLUTION APPEAL--Alcoa Australia seems almost certain to appeal to the Planning Appeals Board against the air pollution licence issued for its Portland smelter by the Environment Protection Authority. The company has 45 days to contest the decision which imposes strict controls on the release of fluoride pollutants into the atmosphere around the town of Portland. The EPA has begun working on its submission to a probable Alcoa challenge. In a brief statement, Mr Ray Roberts, the company's Portland project manager said Alcoa had not fully studied the licence, but hoped it contained no discriminatory burden on the project which might disadvantage Alcoa in international markets. Under the licence, Alcoa will have to instal equipment to clean up fluoride emissions from both the smelting potline and the anode bake room where electrodes are produced. This will reduce emissions to 0.73 kilogrammes of fluoride per tonne of aluminium produced. The company has consistently opposed cleaning emissions from the anode bake room, claiming the \$5 million investment necessary would not reduce the amount of fluoride reaching the town of Portland. [Text] [Melbourne THE AGE in English 10 Apr 82 p 3]

SALINITY STUDY--Scientists from two Australian universities are to undertake a three-year research project to investigate the problem of rising salt levels in irrigated land and water supplies. Professor Barry Osmond of the Australian National University and Professor Michael Pitman of Sydney University have received a \$132,000 grant from the Rural Credits Development fund, sponsored by the Reserve Bank, to study how certain native plants manage to survive high salt levels that kill other plants, including crops. Another researcher at the ANU, Dr Christa Critchley, is also working on the project under a separate grant. Australia has the world's largest area of salt-affected soils, and the Australian research is regarded as the most advanced in the world. Professor Osmond said that despite modern water management techniques, salinisation of irrigated land and water supplies was increasing. One of the plants being studied by the team is the mangrove, which can grow even in sea water. There is considerable scope for exporting the research results to other countries where salt is becoming a problem. [Text] [Canberra THE WEEKEND AUSTRALIAN in English 10-11 Apr 82 p 3]

FRASER ON TASMANIA DAM--Canberra--The Federal Government would not intervene to save the south-west Tasmanian wilderness from a proposed hydro-electric dam despite the area's inclusion in the National Estate, the Prime Minister,

Mr Fraser, said yesterday. On the ABC programme "Morning Extra" he was asked by one caller about Federal responsibilities for the south-west region. The caller said that the region was part of the National Estate which required the Federal Government to ensure that no part of it was "destroyed if feasible and prudent options to the proposed threatening action exists." Mr Fraser replied that the Heritage Commission Act affected only Federal departments and agencies and did not impinge on the actions of States. He said: "Tasmania has had a referendum on the issue--although I know there are questions about the basis of that particular referendum--and this is really a decision which has got to be resolved in Tasmania." [The referendum did not include a no-dams option and was marked by an extraordinary informal vote.] Mr Fraser told another caller that people who participated in tax avoidance schemes were "just as anti-social, if not even more, than the predatory union activists." [Text] [Perth THE WEST AUSTRALIAN in English 15 Apr 82 p 27]

PESTICIDE BAN--The Victorian Government has banned the use of organochlorine pesticides such as DDT and Aldrin on farm buildings used to house animals. The ban has been imposed to prevent any harmful pesticide residues in pork, chicken, milk and eggs. [Sydney THE SYDNEY MORNING HERALD in English 29 Mar 82 p 3]

POWER STATION CURBS--Strict anti-pollution measures are to be taken at Bulimba and Tennyson power stations. This follows talks between the Queensland Electricity Generating Board and the Air Pollution Council. The Environment Minister, Mr Hewitt, said QEGB would instal a bag filtering system for the boiler flue gases from both stations. This would reduce smoke and ash fallout which was sometimes thick and heavy. Mr Hewitt said from June 1 next year the Air Pollution Council had set a low level of particle emission of 180 milligrams a cubic metre of exhaust gas at both stations. He said the Air Pollution Council would be doing everything in its power to ensure these standards were met. Mr Hewitt said with the growing demand for electrical power in Queensland it was essential that all power stations, particularly in urban areas, complied with strict pollution standards. The Air Pollution Council was keeping a close watch on all power stations, particularly Gladstone, to make sure these standards were met. [Brisbane THE COURIER-MAIL in English 29 Mar 82 p 3]

NEW PARKLAND--The State Government announced yesterday additions of 17,600 ha. to national parks on the south coast and the southern tablelands. The Minister for Planning and Environment, Mr Bedford, said the Mimosa Rocks National Park, on the coast near Bega, would be trebled in size with the addition of 3,600 ha. Morton National Park on the southern tablelands, now covering 140,000 ha, would have 14,000 ha added to its southern boundaries. Mr Bedford also said the Government planned a 3,400 ha national park on the Tarlo River, near Goulburn. [Sydney THE SYDNEY MORNING HERALD in English 30 Mar 82 p 8]

FOREST TAX BREAK--The State Government plans to legislate to give private forestry operations the same exemption from land tax as primary production. The Premier, Mr O'Connor, said yesterday that private plantations on rural land outside the metropolitan region would be exempt from land tax. Exemptions would also be possible in the metropolitan region and in areas covered by country town-planning schemes provided that the area for which exemption was sought was at least 100 hectares (one square kilometre) and was fully stocked with trees. This condition had been introduced as an alternative to the income test

which applied to land used for primary production in the metropolitan region or in country town-planning schemes. An income test was not practical in most cases for forestry operations because of the long-term nature of the investment. The income test for agriculture in these circumstances was that at least a third of a person's total net income must be derived from agricultural production on the land. [Perth THE WEST AUSTRALIAN in English 30 Mar 82 p 12]

CSO: 5000/7538

SURVEY REVEALS GROWING MENACE OF WATER POLLUTION

Dacca THE BANGLADESH TIMES in English 26 Apr 82 pp 1, 8

[Text]

The problem of pure drinking water is becoming acute, according to a recent survey.

The problem was more acute in the urban areas where slums and squatter settlements have been proliferating. "Most of our water supply in towns and cities are open drain types sometimes connected directly with riverine water systems. These are being polluted constantly by dirt, filth, dirty cloth washing, human excreta, said an expert.

Though in new cities some time sewage system is fairly modern yet in old areas of both the small towns and the large cities open sewerage street drainage system is a source for spread of contagious diseases, specially enteric diseases.

The intensity and extent of these forms of pollution are so acute that many a times pipe water system itself become contaminated.

A recent survey of pipe water in the taps and overhead tanks of Dacca city has shown that virtually all sources of drinking water is contaminated. Result of an extended study on bacteriological pollution in various localities of Dacca city showed the presence of the members of Enterobacteriaceae such as *E. Coli*, *Klebsiella*, *Citrobacter* and *Proteus* Gram positive *Micrococcus*, Gram negative *Pseudomonas*, *Alcaligenes*, *Acinetobacter*, *Aeromonas* were also isolated.

Similarly another survey revealed that pond and other sources of open water is highly contaminated by fecal coliforms. Thus these contaminated water is annually causing a high number of Diarrhoeal diseases in the urban population specially among children.

Apart from these the pollution by industrial effluents are gradually adding up as a health hazard specially in those areas of cities and towns situated near industrial zones such as Tongi Industrial Area, and Hazaribag Tannery regions within the Dacca city itself.

Besides in the rural areas particularly in the vicinity of Industrial Units pollution of water is becoming a major problem. To quote a few, the Chattack Paper and Pulp Mill was found to be polluting the water of the Surma river giving rise to a gradual process of annihilation of fish and other aquatic organisms. Similarly Karnaphuli Paper Mill and Rayon Complex happens to discharge their effluents directly into the river Karnaphuli which amount to more than 10-12 million gallons of untreated waste per year. Other river water sources like Bhairab river, Halda river, Sitalakhya River have also been examined

for concentration of coliforms colonies and Bio Chemical Oxygen

demand (BOD) which as well as dissolved Oxygen content are necessary for survival of aquatic life. Variation of these factors make survival of aquatic life difficult.

More than 126 tanners operating in the Hazaribag area of Dacca City discharge their post washing operation water in the river Buriganga which was found to be very harmful having high concentration of chromium compound.

But measure taken to control of water pollution; efforts yet fall too short compared to the intensity of the problem. Water pollution control project (WPCP) created by Environmental Control Board in 1973, have put up river monitoring stations for sample analysis on a routine basis. In addition to this, occasional sampling of lakes and other drinking water sources of the city have also been done. Presently bacteriological studies of these polluted water sources are in progress.

GANDHI OPENS NATIONAL CONFERENCE ON ENVIRONMENT

Madras THE HINDU in English 1 May 82 p 9

[Text]

NEW DELHI, April 30.

The Prime Minister, Mrs. Indira Gandhi, today underscored the need to strike a balance between development and environmental protection.

Inaugurating the first national conference on environment for legislators, Mrs. Gandhi said efforts must be made to see that all key personnel like engineers and technicians who devised projects shared the vision of environment conservation.

She called upon legislators and MPs to do their best to ensure that environmental considerations were not brushed aside in decision-making at the Centre or in the States.

The Prime Minister said carelessness would deprive the country of its rich flora and fauna and "leave us with rubble, rock and dust".

Mrs. Gandhi added: "the earth will protect us only if we ourselves protect the earth".

She said factories must be so built that they caused neither pollution nor destroyed the means of livelihood of the people there.

The needs of environment protection should be infused in the minds of the children. As they grow up, children should realise the value of natural resources, she said.

She hoped the high-level conference would devise a plan as to how the Government could go about preserving the environment as also suggest methods to include it in the school curriculum. If only each family kept the environment outside the house and the lanes and bylanes clean it would go a long way in preserving natural beauty and resources.

The Prime Minister said preservation of the environment and need for cleanliness in towns and villages had been included in Sanjay Gandhi's five-point programme. These, she said, had also been included in the revised 20-point programme.

The masses should be involved in the environmental programmes, she added.

The Lok Sabha Speaker, Mr. Balram Jakhar, in his presidential address to the two-day conference, regretted that people had exploited the earth in a ruthless manner for selfish purposes. A solution for environmental problem was to be found in development itself. The two could go hand in hand to achieve social and cultural gains, he said.

Pragmatic approach: Mr. C. P. N. Singh, Minister of State for Environment, said a new pragmatic approach was needed to preserve environment. The Department of Environment would have to coordinate its efforts with other ministries and departments. He was glad that the awareness of environmental needs had increased and political parties had included it in election manifestoes.

Tamil Nadu's lead: The Tamil Nadu Health Minister, Dr. H. V. Hande claimed that Tamil Nadu was leading in the country in population control measures. He said as compared to the average national population growth of 24.4 per cent during the last decade, Tamil Nadu had registered the lowest growth of 17.3 per cent and in some districts like Tiruchi and Tirunelveli the growth was just 15 per cent.

Dr. Hande told the conference that Tamil Nadu was aware of the environmental problems and had recently set up an environmental control board.

In his welcome address, the Congress (D) MP, Mr. Digvijay Singh, who is also the convener of the Parliamentary Environment Forum, demanded an autonomous environmental board and a legal cell for drawing up necessary legislation for protecting and conserving the environment.

CSO: 5000/7054

NATIONAL CONFERENCE ON ENVIRONMENT RESOLUTIONS REPORTED

New Delhi PATRIOT in English 3 May 82 p 10

[Text]

The two-day national conference for legislators on environment has recommended that the Department of Environment should be immediately given the status of a ministry to make it more effective in the implementation of its various programmes, reports PTL.

The conference which concluded on Saturday has also called upon each state to set up a department of environment, a legislator environment forum and state environment committees with the Chief Minister as chairman.

In a series of resolutions to make the programme successful, the conference has recommended that policies and programmes should be evolved for promoting and supporting different forms of non-polluting alternative sources of energy.

The conference, organised by the Parliamentary Environment Forum, was inaugurated by Prime Minister Mrs Indira Gandhi on Friday.

The conference has also suggested appropriate division of the Department of Ocean Development to be charged with the duty of environmental protection of beaches, mangroves and coastal waters.

It felt that to bring in environmental awareness among people at large, efforts should be made on a massive scale for value orientation pertaining to the social component.

Accordingly, it has recommended the present education system should be so oriented that the educational curricula, both formal and non-formal, would help in promoting environmental consciousness among students starting from pre-school to secondary stage and also adult education.

ENVIRONMENT DEPARTMENT RELEASES ANNUAL REPORT

Calcutta THE STATESMAN in English 28 Apr 82 p 6

[Text]

NEW DELHI, April 27.—An institute of Himalayan ecology and development is to be set up soon with emphasis on conservation of the biological heritage of the region in the form of flora and fauna as also forests and water resources.

According to the annual report of the Department of Environment, Government of India, released here the proposed institute will work for the development of additional resources, particularly in the form of renewable energy resources and introduction of new species of fruit trees and other valuable crops.

The Indian National Man and the Biosphere Committee set up by the department has appointed a consultant to prepare the master plan for this institute which will have its sub-centres at various locations in the Himalayan range. The report is likely to be submitted by the end of 1982.

A comprehensive programme to make an inventory of ecological resources of the country is to be undertaken. This will be done in coordination with the environmental quality monitoring and environmental information system programme.

The work will be done in phases by using institutions such as the Survey of India, Botanical and Zoological Surveys of India and the National Remote Sensing Agency besides other Ministries and agencies of the Central and State Governments. Data gathered from satellite imagery, aerial photography and field surveys will be processed and collated in selected institutions and will be available

to planners.

TAJ MAHAL

The initiative taken by the department through the high-power committee for overseeing the implementation of recommendations for abating air pollution in the Agra-Mathura region, has resulted in reduction of sulphur dioxide levels in the ambient atmosphere at and around the Taj Mahal.

According to the report, there has been a 75% reduction in the levels of sulphur dioxide at the monitoring station at Taj Mahal since 1980. This was attributed to the closure of the thermal power stations in Agra and the conversion of the coal-fired steam engines in the railway marshalling yards to diesel or fuel oil operation.

Schemes have been drawn with a view to reducing emission from foundries. A scheme of shifting the foundries have also been drawn. However, under the existing circumstances, it is proposed to give the option to the foundries to improve their work practices or to shift to a new area outside the geographical zone of Taj Mahal.

The Department of Environment claims a major achievement during the year has been the establishment of close links with the Planning Commission, various Ministries or departments and voluntary agencies, thus providing a base for pursuing the participative programmes. Specialists and people concerned from various walks of life have helped the department by serving on its committees and providing information.

CSO: 5000/7052

WRITER DISCUSSES INDIA'S ENVIRONMENTAL PROBLEMS

Bombay THE TIMES OF INDIA in English 26 Apr 82 p 8

[Article by D. P. Agrawal]

[Text]

ENVIRONMENT and ecology have become fashionable words amongst our educated elite. Though pollution is not a serious problem yet for us, it is good to see a growing concern about the preservation of our environment. A variety of problems have been debated in the national dailies including the denudation of the Silent Valley, the Chipko movement of the Kumaon hills, the silting of the Nainital lake; the choking of the Dal Lake, the spread of the Thar desert and damage to the Taj by the Mathura refinery. These are expressions of the growing concern about our deteriorating environment. In fact, a Union department of environment has been created at the instance of the Prime Minister.

Industrial pollution has attracted attention disproportionate to its severity and extent in India. This is largely attributable to our awareness of the problems of the industrialized West and easy access to a variety of recipes that are being tried elsewhere. Our problems of environmental deterioration are qualitatively different. We need to have an original approach to deal with it. This means that we have to study the environment as a process, a study involving the time dimension and population pressure. This requires an interdisciplinary perspective.

Advancing Desert

Let us take the case of the Thar desert first. Recently a scare was created that it was moving with a speed of one km a year. To evolve effective land-use planning, it is necessary to know at what speed different types of sand dunes move. One should also know the anti-

quity of the desert. If it were a recent one we could try to reverse the trend by taking suitable measures. Our studies have shown that the Thar desert is the product of a glacial aridity, perhaps less than 100,000-years-old, when the sea level went down by 100 m or so and a lot of sand became available for deflation. A relative increase of rainfall (more than 300 mm a year) tends to stabilise the dunes. If today they are getting destabilised and mobile, it is largely because of our enthusiasm to plough such dunes. Only those dunes in Rajasthan have become active where man's role in impairing the ecological balance in the area is evident.

The mighty Indus civilization flourished in Rajasthan only upto 1700 B.C. After that no significant human settlements came up there till 700 B.C. when the painted grey ware culture was established. But soon it also withered away and the next major occupation in the area was the Rangmahal culture. Thus a clear cycle of ecological balance and imbalance is repeated. Population pressure on land reaches a point where the ecology gives way and man has to abandon the area to seek newer pastures. But wherever man continued to use the nomadic pastoral mode of economy, he survived, and so did the ecology. The story is being repeated today. Man's over-exploitation of stabilised dunes is making them mobile. It is therefore obvious that any long-term land-use plans should take a look into the past.

Rajasthan is instructive from yet another point of view. It clearly conveys the message that environment is a process affected by a

number of factors: climate, tectonics, animals and man himself. The story of the lost Sarasvati (present day Ghaggar) shows that in diverting the Satluj to the Indus and the Yamuna to the Ganga, though originally both were tributaries of the Sarasvati, tectonics has played a major part.

Waste In Lake

A similar problem is the choking of the lake in Kashmir. This is partly due to the discharge of the wastes of the town into the lake. But an equally important cause appears to be large-scale agriculture over steep slopes of loess. Such activities lead to extensive loessic silt deflation and its deposition in the lake.

Let us now examine the problem created by the deforestation of Kumaon hills. The *Chipko* movement does not allow the pine trees to be cut and exported to the plains. But to understand the ecological problems one has to go back a couple of hundred years when the East India Co. removed the original broad-leaved forests, which provided fodder, fruit, honey and fuel and nutrition to the soil, and planted pine for extracting resin. Pine leaves and twigs are highly acidic, they made the soil weak, no other plants can grow, and no animal can find shelter. Weak soil increases erosion, landslides, flash floods. The natural lakes in the area start getting silted much faster. What is needed therefore is an interdisciplinary study of mono-culture plantation as also denudation so as to devise solutions for restoring the ecological balance. It appears that the mistakes of the British are being repeated by us now. Large scale plantation of eucalyptus is going to result in the same type of problems that were caused by mono-culture pine plantation.

A related problem is of fresh water springs in Kumaon. They

are getting dried up. Is this only due to denudation of broad-leaved trees and greater evapo-transpiration of pines, or it is also connected with the recent tectonic activities in this mobile belt?

The other important factor in environmental deterioration is the pressure of population. Bombay and Calcutta have become huge slums and various other big towns are following suit. Lack of elementary hygiene and population pressure pollutes rivers and endangers the health of the people.

There has been much talk about the Mathura refinery damaging the Taj but one finds that the smoke from local brick-kilns and cow-dung cakes is causing extensive damage to the Taj, much more than the sulphur from the Mathura refinery will ever do. The narrow and filthy streets of Agra, the stinking huge open gutters, the thick smoke during winters have not attracted much attention. Our elite recognises only the threat from modern industrial pollution.

Problems of environmental deterioration are complex and have multiple dimensions. But the policies to stem the decay are often based on a lopsided view of the complex reality. Take, for example, the forest cover problems of the hills. To introduce effective and comprehensive measures, one needs to know quantitatively the effect of monoculture plantation and denudation on soil properties; effects on the rates of siltation of hill lakes; detailed comparative studies of monoculture and mixed deciduous forests on soil, erosion and local economy; effects of deciduous belts around monoculture forests; deeper study of tribal and local economies *vis-a-vis* conservation measures; supplementing the economy of the local people who live off the forests through raising of medicinal plants, honey, grass etc.; ways to involve the local peo-

ple in conserving the forests; economic implications of totally stopping forests felling in specific areas; effects of climatic and neotectonic changes on the ecology; and alternative cheap sources of fuel and energy that can be available to the villagers. These are examples of some in-depth, multi-faceted studies that need to be carried out to implement afforestation plans.

High Stakes

The stakes are very high and the deforestation is going on unabated largely because of the rapacious greed of contractors and forest officials. It has been estimated that 6000 million tonnes of the precious top soil is water-eroded every year. In terms of fertilizer compensation alone, it will cost Rs. 700 crores. The nation has invested Rs. 10,000 crores in dams and reservoirs which are silting alarmingly fast. The increasing floods, as a consequence of deforestation alone, cost the nation Rs. 1000 crores per year. With such colossal costs involved, is it not worth spending at least half a crore rupees on establishing some centres where environmental deterioration and conservation can be studied in all its complex dimensions? At the centres a variety of techniques, from nuclear to anthronological, can be employed to study the multiple facets of environmental change.

Economics is perhaps one of the most important aspects of today's ecology. The economic implications of a total ten year moratorium on tree-felling, strict regulation of timber and resin industries or putting them totally under the public sector, tribal economy and forests, are some aspects that need to be studied further. Viewed in this light the proposed Forest Act appears to be a clumsy, but dangerous effort as far as the ecological conservation is concerned.

WEST BENGAL CONCERNED OVER GANGA, HOOGHLY EROSION

Calcutta THE STATESMAN in English 1 May 82 p 16

[Text] The West Bengal Irrigation Department is concerned at the erosion of the banks of the Ganga and Hooghly. The erosion, noticed more than three years ago, has reached an alarming proportion. The river banks on both sides from Nabadwip to Kakdwip have been affected. Many villages at Karanjali near Kakdwip in South 24-Parganas have disappeared into the river. Along with this erosion shoaling in the river bed is creating navigational problems for Calcutta port and the Haldia dock. About 15 shoals have formed in the Hooghly between Diamond Harbour and Calcutta.

The State Irrigation Department had taken some anti-erosion measures like brick-pitching and piling on the river banks between Sanipur and Serampore on the western bank and between Halisahar and Dakshineswar on the eastern bank of the Ganga. The work, completed in three years, involved an expenditure of Rs 3 crores. But this work, it is felt, is far from adequate. More serious measures are needed to tackle the twin problems of erosion and shoaling of the river.

Mr Provash Roy, State Irrigation Minister, said in Calcutta on Thursday that he had brought to the notice of the Union Irrigation Minister, Mr Kedar Pandey, the problem of erosion. He said that it was the duty of the Calcutta Port Trust authorities to maintain the river banks up to Farakka. But the Port Trust had till now undertaken anti-erosion measures on the stretch between the port and Achipore, near Budge Budge. Some boulders were being placed along the Hooghly bank opposite Rangafala. A survey was made of the stretch between Kakdwip and Harwood Point which faces serious erosion. It was estimated that anti-erosion measures in this region would cost Rs 12 crores.

Mr Roy said that it was beyond the means of the State Government to undertake such a large project. He had discussed the problem with the former Union Shipping and Transport Minister, Mr A. P. Sharma. He had urged Mr Sharma that the Union Shipping Ministry should take up the work. Mr Roy said that he would write to the present Union Shipping and Transport Minister, Mr Virenda Patil.

The master plan to control floods in North Bengal by constructing five dams on the Teesta, Torsa and Raidak had been prepared. The dams would be erected in the upper reaches of the rivers, which originate from Bhutan. The plan was

prepared after a thorough survey, which took about three years. It had been estimated that the implementation of the scheme would involve an expenditure of Rs 200 crores. Besides flood control, 100 MW of power would be generated by the dams. Mr Roy said that the master plan would be sent to the Union Irrigation Ministry for approval shortly.

Work on the Teesta Barrage project, taken up in 1977, 2as progressing. It was expected that irrigation water from the barrage would be available by 1983. Work on the entire project, which ultimately would supply water to over 2.8 million acres in five districts of North Gengal and generate 75 MW of power, would be completed in 1988.

CSO: 5000/7053

ENVIRONMENTAL ENFORCEMENT STAFF INCREASED

Kuala Lumpur BUSINESS TIMES in English 27 Apr 82 p 3

[Text]

ENFORCEMENT of laws relating to the environment and pollution will be intensified with the recruitment of more officers, the director of Environment Division, Mr S.T. Sundram, said yesterday.

He said 59 officers comprising five control officers and 54 assistant control officers would be recruited to beef up the division's six regional offices and two special units by June.

With the recruitment, the department would be able to carry out its enforcement functions more effectively as it would have more men to check on factories to ensure that they complied with the laws and regulations.

The division had always worked under the constraint of inadequate staff as its regional offices were only one-third manned, he said.

Though the recruitment would not completely eliminate the problem, the exercise would at least fill up the existing vacancies for that category of officers, Mr Sundram said.

The six regional centres are at Butterworth, Kuantan, Kuala Lumpur, Johore Baru, Kuching

and Kota Kinabalu. The two special centres are in the Trengganu Tengah Development Authority region and the Pahang Tenggara Development Authority region.

The division would also be holding a dialogue session with the Federation of Malaysian Manufacturers, Shah Alam, soon where among other things, the question of compliance of the provisions of the Sewage and Industrial Act would be brought up.

More than 75 per cent of the factories in the Petaling Jaya areas had been found to have not complied with the requirements of the law, 15 months after the expiry of the grace period, he said.

Mr Sundram said that to tackle the problem, better coordination between the departments involved was needed.

At the moment there was practically no liaison between the Petaling Jaya Municipality, which issued licences to the factories, and the division except for correspondence regarding individual cases on a piecemeal basis.

The municipality

could help alleviate the problem of non-compliance by refusing to renew licences unless the factories concerned took concrete steps to comply with the law.

The division being entrusted with the enforcement of these laws could help the municipality on this matter and vice versa, Mr Sundram said.

He felt that the initiative of involving the department in this matter should come from the municipality as the department's expertise was always available to all, especially the local authorities.

Mr Sundram said that the officers in the regional offices would not only carry out enforcement work but also monitor air and water quality in their area besides carrying out pre-site evaluation before any factory could be set up in a certain area.

The Department of Environment was not only responsible for enforcement work such as policing and bringing to book errant factories but also for carrying out research and developing technology for treatment of wastes. — Bernama

ECONOMIC CONDITIONS HAMPER POLLUTION CONTROL

Rangoon THE WORKING PEOPLE'S DAILY in English 5 May 82 p 6

[Text]

KUALA LUMPUR, 3 May—Environmental authorities are worried because the current poor economic situation is making it difficult for medium-sized factories to raise money to instal pollution control equipment.

Many of these factories have shown environmental authorities unfavourable balance sheets, reliable sources said.

Coupled with this, banks have also not been treating loan applications for the purchase of pollution abatement equipment favourably. A number of such requests, mostly from medium-sized factories were turned down recently.

These factories then informed the Environment Division of the situation and their inability to plough into their reserves because of poor performance.

According to the sources, the loan requests were

usually rejected because the factories could not justify returns that could be considered viable enough for the banks to approve the loans.

Even the industries concerned do not treat expenditure on pollution control systems as worthwhile, the sources added.

Some textile factories which are not doing well are believed to have shown proof of their inability to instal pollution treatment systems because of financial constraints.

The sources said that the financial outlay for installing treatment equip-

ment varied from industry to industry depending on size. A small pineapple cannery might need something like 100,000 US dollars and the cost would be much higher for larger factories.

Environment Division sources said that they were now confronting pollution cases industry by industry.

They felt that investment on pollution control should not be looked upon as unproductive as pollution had both an economic and social cost.

NAB/AFP

PROGRAM TO PRESERVE NEPALESE ECOSYSTEM PROPOSED

Kathmandu THE RISING NEPAL in English 7 May 82 pp 2, 6

[Article by N. Sharma]

[Text]

"Nepal's biggest export is its soil in the form of soil erosion"- a famous environmentalist, Mr. Eckholm, is reported to have said. In fact, a continuous deterioration in the physical environment is posing a serious threat to Nepal's eco-system. The floods and the drought that are yearly occurrences in the country are partially attributed to this degradation of ecology in the Himalayan catchment areas. "Nepal's wealth-its green forests", used to be our favourite slogan and catchword even till the other day. Yet, alas, they are so rapidly vanishing that, at this pace, our forests could completely disappear by the end of this century, according to experts.

It is in this context that the Resource Conservation and Utilization Project was formulated with the Department of Soil and Water Conservation and the United States Agency for International Development's

Project idea. The RCUP is a multifaceted and integrated project that will attempt to check the rapid degradation of Nepal's environment. It proposes an integration of major components that will exert an influence on the entire system of socio-economic and ecological interdependence existing in the Hills- and, to that effect, seeks to attack the problem simultaneously in a two-way strategy, namely:

1. To promptly implement some suggested resource and social actions to begin the reversal of the environmental degradation process; and
2. To strengthen the in-country educational and technical training capabilities so that resource management is developed as rapidly as possible.

The Department of Soil and Water Conservation under the Ministry of Forests and Soil Conservation is

the lead agency to implement this Project. Other government agencies such as the Panchayat and Local Development Ministry, the Agriculture Department, Department of Soil Conservation, etc., will participate in their respective disciplines to plan and implement the various related activities. Local people will be involved in planning and project implementation throughout the project period.

PROJECT REGIONS:

The project regions chosen, namely the Daraundi Catchment area in Gorkha District, and the Upper Kali Gandaki Catchment area in Mustang/Myagdi districts, represent a cross-section of natural and cultural landscape of Nepal. The RCU programme in these regions is designed to begin immediate correction of watershed problems and to provide models which can be followed for nation-wide resource improvement and conservation.

The RCUP approach to resource management is multi-objective and includes, among other things, treatment and upgrading of forest, range, and agricultural resources; the introduction of new conservation management techniques; demonstrations and trials with new species of flora and livestock; development of alternative economic activities to agriculture, and the development of energy

resources. Demonstration projects are vital to the RCUP approach in winning the acceptance of new techniques by the villagers.

The primary benefits of this project will be small and marginal farmers. As such, it is proposed to establish a local resource conservation co-ordination fund to provide a mechanism to gain fuller popular appreciation and support for the programme's goals and objectives.

From Nepal's 145,504 square kilometers of land, about 240 million cubic meters of eroded soil is transported each year by the four major rivers and their 6,000 or more tributaries. It is estimated that the range of soil loss is between 20 to 50 tons a year. Although nature plays a key-role in bringing this havoc about, human activity has also added to bring about the annually increasing number of landslides and soil-erosions considerably.

Realising the complexity and magnitude of the problem, His Majesty's Government of Nepal and the USAID/Nepal came out with the following tentative strategies:

1. Planting fast maturing dual purpose fodder and fuelwood species of trees on steeper slopes;
2. Establishing and improving pasture lands on less steeply sloping lands not suitable for agriculture, and intro-

ducing improved pasture and livestock management systems;

3. Introducing improved crop technology to improve the productivity of upland terraces and paddy lands;
4. Using alternative energy sources as substitutes for scarce wood and manure;
5. Expanding off-farm employment opportunities to decrease the economic dependence on already overworked and limited arable lands, etc;

A grant agreement to design the RCUP approach was signed between HMG and USAID in August 1978. Final approval resulted in the start of the Project in two Catchment areas to begin with, namely, the Daraundi and Upper Kali Gandaki as mentioned above.

THE PROJECT AREAS:

The Gorkha Area: This is an elongated region drained by the major southflowing Budi Gandaki river, and the Daraundi and Chepe Kholas, all of which are left-bank tributaries of the Trisuli. The landscape grades from high mountain in the north to generally lower altitudes. Population densities increase generally southward to over 200 persons per square kilometre, except in the far south-west, where densities are somewhat lower. Little native

vegetation has survived cutting, burning and over-grazing. Poorly constructed and maintained dry terraces are widespread, and the pre-monsoon drought precludes the growth of terrace crops, allowing the pre-monsoon rain to erode considerable sediment. Numerous large slides, some natural, but most man-made, occur on steep slopes where terraces have been built. Generally, it may be said that the area is in an advanced stage of environmental degradation.

The Mustang/ Myagdi Area: The situation is not much different in these areas as well. Mustang is located in north-central Nepal in the head waters of the Kali Gandaki river. Most of the region lies above 3,000 metres. The combination of remoteness, high altitudes, rugged terrain and harsh climate have limited settlement and land use intensity. The population densities are low, and intensive agriculture, mostly in the form of irrigated terraces, is carried on to the proximity of settlements, while, elsewhere, grazing activities dominate.

Additional fertile soils, mostly on river terraces, are available, but to date

remain uncultivated, awaiting the development of water resources. Added to overgrazing and deforestation, intense natural denudation is found in the shape of landslides and erosion.

Likewise, in the Myagdi area, there are evidence of dense original forest vegetation, but increased population densities have brought about extensive clearing, denuded grazing lands and retreating forests, almost uniformly contributing to high rates of erosion.

THE PROGRAMME:

The RCU Project has been designed to last for 15 years, with the first five-year phase having begun in 1980. The US Government is expected to provide \$27.5 million and HMG will contribute \$ 5million, in addition to manpower, to support the programme. On the training and education front, the project will assist in the development of a B. Sc. programme in forestry and in soil and water conservation and in improving the current certificate programme at the Institute of Forestry at Hetauda. The new B. Sc. programme and a second certificate programme will be launched

at a new campus to be built by HMG with the assistance of the World Bank at Pokhara. Subject to the approval of the Tribhuvan University, the new campus at Pokhara and the Institute of Forestry at Hetauda will jointly be called the Institute of Renewable Natural Resources.

It is hopefully clear by now that RCUP will work through local, community projects launched with the support of the people and the various institutions within the HMG.

As will be readily understood, programmes like the RCUP will take years before their full benefits will start making desired impacts. Treeplanting initiated now will take years to grow into mature timber and forage-yielding plans. Similarly, controlling of soil erosion in the Hills is also a long-term programme. However, it is expected that the success of RCUP will lead to a strong national policy for better use of soils, water, forest and energy resources and their conservation. The success of RCUP will be measured in terms of its impact in re-strong the balance between Man and Nature.

CLEARING RESIDENTIAL AREAS OF FACTORIES, POLLUTION URGED

Peshawar MASHRIQ in Urdu 8 Apr 82 p 5

[Editorial: "Illegal Factories in Urban Areas"]

[Text] The greatest danger facing the inhabitants of growing cities is the pollution of the environment. In the first place, our sanitary and health safeguards are very defective; irresponsible citizens throw their garbage into the streets, polluting air and water and smoke-belching vehicles spread their poison into the air. In addition, factories have sprung up in city suburbs from whose countless chimneys poisonous smoke is released into the atmosphere. On top of all this pollution, irresponsible individuals have opened small illegal factories in narrow streets and alleys that spread stench, dirt and poisonous smoke.

Factories are not allowed to be set up in streets without the prior approval of city authorities, nor is such approval given in civilized societies. But in our country, even in a large city such as Lahore, sawmills, soap factories and poisonous-gas emitting kilns have been set up in different areas. One of the worst such spots is Ghalib Street, Railway Road, Lahore, where illegal sawmills have made the life of the inhabitants of the area a perpetual misery. The mills spread sawdust everywhere and clog the lungs and nostrils of pedestrians; and the constant noise of the machines, which run night and day, denies restful sleep to the area inhabitants and constitutes an unbearable torture, especially for the students and the sick. Such conditions exist in all large cities and should be remedied as fast as possible because such pollution destroys the peace and tranquility of urban dwellers and spreads all kinds of disease.

9863

CSO: 5000/5734

DELEGATE ADDRESSES UN ENVIRONMENT MEETING

OW131858 Beijing XINHUA in English 1837 GMT 13 May 82

[Text] Nairobi, May 13 (XINHUA) -- China stressed the importance of environmental protection at a session of the U.N. environment program here today. "Environmental protection constitutes a positive factor in ensuring and promoting sustained economic growth and must be regarded as a strategic goal in the formation of a sound, long-term policy for social and economic development", said Li Jingzhao, head of the Chinese delegation to the U.N. session. He said the conference on human environment, held a decade ago in Stockholm and its declaration of human environment have pushed the protection of human environment to an entirely new stage. "The importance of the environmental issue has been widely acknowledged by the world community," he said. "Environmental pollution is no longer treated as an isolated, local phenomenon, but as a global social and economic matter. Damage to the environment caused by inappropriate development and exploitation of natural resources has been fully recognized."

Referring to the correct handling of the relationship between development and environment, Li Jingzhao pointed out that "only through the acceleration of development can solutions to environmental problems created by human or other factors be provided. Furthermore, the unjust and irrational world economic relations have imposed impediments on the enhancement of the environment as well as on development. This further bears out the need to have this old order restructured."

On the relationship between the environment and population, Li Jingzhao said: "It is a global strategic issue to effectively mitigate the great pressure on the environment arising from the dramatic growth in population." He called for human creativeness in reducing environmental damage and for a resolute family-planning practice. He further pointed out that "forest coverage is a basic indicator of a sound ecological environment." However, "natural resources in many regions of the world are still being subjected to various damage."

On agriculture, Li Jingzhao said China will continue developing its traditional farming characterized by intensive cultivation, frugal use of natural organic fertilizers and biological control of pests and diseases while making use of the achievements in modern science and technology to establish a sound agro-ecosystem.

In conclusion, Li Jingzhao said: "The present world situation is still very turbulent. Wars remained a feature of the international scene during the decade. The arms race between the two superpowers has not only wasted a great deal of wealth and natural resources, but also presents a grave threat to the peace and security of mankind. Expansionist and imperialist aggression, occupation and intervention, inflicts serious damage on the environment and natural resources." He said that "the Chinese Government, as always, favors genuine rather than false disarmament and resolutely opposes the arms race between the superpowers and activities of aggression and expansion conducted by hegemonists, big or small. We maintain that the elimination of all these is an indispensable guarantee for the protection and betterment of the environment."

BRIEFS

ZIYANG GREETES ENVIRONMENT MEETING--Beijing, May 9 (XINHUA)--Zhao Ziyang, premier of the State Council of the People's Republic of China, wished success to the special session of the Governing Council of the United Nations environment programme being held in Nairobi. In a congratulatory message to the session yesterday, the premier said. "On the occasion of convening the session of a special character of the Governing Council of the United Nations environment programme, I would like on behalf of the Chinese Government and people to extend warm congratulations to the session. The U.N. conference on human environment held in Stockholm ten years ago has contributed to promoting human understanding of environmental protection and the work of environmental protection. Today the peoples all over the world are concerned over environmental protection. An appropriate solution to the environmental issues will help the economic development of various countries and the improvement of peoples' livelihood. We hope this special session will further strengthen cooperation among various countries in the realm of environment and make positive contributions to the achievement of a better environment for human race." [Text] [OW091018 Beijing XINHUA in English 0721 GMT 9 May 82]

CSO: 5000/2116

PESTICIDES REPORTED POLLUTING RIVERS

Manila BULLETIN TODAY in English 11 May 82 pp 1, 10

[Text]

Traces of pesticides have been found in some rivers and samples of fish collected by the National Pollution Control Commission (NPCC), it was learned yesterday.

The findings showed that the pesticide content in the Pasig-Marikina and San Juan rivers in Metro Manila exceeded the allowable limit set by the NPCC.

The pesticides content reportedly varied at certain periods of the year and was observed to be high after the rainy season when pesticides from nearby agricultural lands are washed down the rivers.

The excess in pesticide per liter of water was, however, still too minimal to cause poisoning or harm, it was said. No casualties have been reported so far to the NPCC.

The traces of pesticide were found in fish collected from public markets including bangus,

hito, dalag, tilapia, lapu-lapu, hasa-hasa, galunggong, tuna, bisugo, and dalagang bukid.

The residues obtained from both marine and fresh wa-

ter fish were all within the acceptable daily intake (ADI) limit recommended by the Food and Agriculture Organization and the WHO, the NPCC said, adding the fish were therefore "reasonably safe" for human consumption.

The pesticides were identified as chlorinated pesticides or those which are not easily degradable. They are Alpha BHC, Gamma

BHC, Heptachlor, Aldrin, Dieldrin, Heptachlor Oxide, and Endrin.

The Fertilizer and Pesticide Authority (FPA), it was learned, has banned the importation of Endrin — which it described as "too toxic for use" — unless needed in emergencies as determined by the authority.

Aldrin, Dieldrin, and Heptachlor, on the other hand, were specified as "not for use near aquatic ecosystem" to ensure the protection of the environment and the health and safety of the public.

BRIEFS

NEW NATIONAL PARK--A 99-year lease has recently been signed between the Grand Bahama Development Co. Ltd, and the Bahamas National Trust for the creation of the Lucayan National Park. The lease covers about 40 acres of land near Gold Point Creek, 20 miles east of Freeport/Lucaya and includes all the major surface openings of the Lucayan Cavern--the world's longest underwater cave. Last year, divers Dennis Williams and Jill Yager, both members of the National Trust's newly-formed Grand Bahama committee, mapped the length of the cave at 24,405 feet--almost five miles--in a branching maze of tunnels and passages extending inland from an opening of the south coast of Grand Bahama near Gold Point. [Excerpt] [Nassau THE TRIBUNE in English 6 May 82 p 10]

CSO: 5000/7540

ISLAND HEADING FOR DISASTER WITHOUT OPEN SPACE PRESERVATION

Hamilton THE ROYAL GAZETTE in English 8 Apr 82 p 1

[Text] Government Conservation Officer Mr. David Wingate last night sounded a doomsday warning over Bermuda's shrinking open spaces. The situation was grave and the Island could be in "real trouble" by 1990.

He was replying to a question at a public meeting asking: How much time does Bermuda have before disaster strikes? The situation was grave, said Mr. Wingate. The Island was unique because it was creating a city without a countryside.

Mr. Wingate showed before and after slides of the land and declared: "It is not true you can't turn the clock back. It is just a case of organising ourselves."

Growth for growth's sake was unnecessary. Although there was a housing crisis 200 homes were being built every year. The problem was growth. Mr. Wingate told about 80 concerned Smith's Parish residents at the meeting in Whitney Institute that something drastic had to be done on a national level.

"We have to stop the world for a while and have a rethink about where we are going," he said. "We must use land more efficiently so we can accommodate more sensible development in the future."

Former dairy farmer Mr. Malcolm Ralph Terceira was so moved by the slide show that he said: "After that talk I have two bulldozers for sale."

Mr. Wingate said 25 per cent of the environment needed to be saved "at the very minimum" and added: "We have to take positive steps and freeze this otherwise it will go into houses, hotels, schools or whatever."

"Even if we froze development tomorrow--and we know how unlikely that is because of the housing crisis--we probably would only have 25 per cent. So we are near that now."

"We have to stop treating symptoms and get back to the root of the problem which is uncontrolled growth--growth for growth's sake."

Mr. Wingate said nothing would please him more than to have a mandate to establish a national parks system. At present this was only done on an ad hoc basis.

Planning Director Mr. Erwin Adderly pointed out that his department had to operate under the present Planning Act until it was changed. He agreed that the shrinking land problem was becoming critical but said: "We can't just change."

In some instances the department felt a great deal of sympathy but it could not just "stop the ball game and change it overnight".

The action group Preservation of Open Agricultural Space in Smith's Parish (O.A.S.I.S.) called for a comprehensive long-term plan for the parish under which substantial open space and agricultural land would be preserved and development would be more orderly. All further subdivision of land would be suspended until the plan was complete.

O.A.S.I.S. also recommended employment of an environmentalist in the Planning Department and that a new Development Plan be established.

CSO: 5000/7536

GOVERNMENT IMPOSES MORATORIUM ON SUBDIVISION OF OPEN SPACE

Hamilton THE ROYAL GAZETTE in English 28 Apr 82 p 1

[Text]

Bermuda's conservationists scored a notable victory yesterday when Government announced a surprise moratorium on the subdivision of open spaces.

The six-month ban on dividing open land into building lots, which takes effect immediately, caught ecstatic conservationists completely off guard. "I'm absolutely thrilled. I think it's tremendous," said Mr. Stuart Hayward, who spearheaded the recently formed Save Open Spaces committee (SOS). "I congratulate the Minister for this bold stroke."

Farmer Richard DeMoura, who led a farmers' protest march earlier this year to save farmland from development, said: "Excellent, excellent. They're making the right noises and taking the right action. It pleases me to no end."

The unexpected announcement was made at a press conference yesterday called by Planning Minister the Hon. Haskins Davis. Full credit for the decision was given to concerns expressed recently by environmentalists and the farming community.

The moratorium, Mr. Davis said, would last for six months with the option for a six-month extension so Planning and Agriculture and Fisheries staff could complete studies as a preface to "a sound conservation policy". Applications for subdivision of open lots tendered to the Planning Department will not be considered.

He said: "There is growing concern for the preservation of Bermuda's remaining open farmland, including arable and agricultural

lands. This concern is obviously genuine and broad-based and has been heightened by the accelerated pace at which land is being sub-divided at a rate which is producing building lots far in excess of the rate required for development."

Mr. Davis said that during the past five years 1,115 lots had been created through sub-division. But only 644 of those lots had been developed, he said, leaving a surplus of some 471 undeveloped lots.

The 1974 Island-wide development plan's definition of open spaces would be used, he said — lands falling into the categories of farmland, woodland, beaches, marshes, recreational grounds and gardens would be protected by the

moratorium.

Opening the press conference, the Premier, the Hon. John Swan, paid tribute to the efforts made by the Island's conservationists. Since he took over the office of Premier, Mr. Swan said, he had been presented with two different petitions by different groups expressing concern over the threat to open spaces by development.

Mr. Hayward, speaking for both SOS and the Bermuda National Trust, said afterwards: "I'm fairly certain that having taken this step it's just the beginning. It's an indication that environment and in particular open spaces issues will have a broader audience and hearing in any decisions on planning that Government makes from now on. It is

tremendous in that it has pointed the way. It is just a herald of what is to come."

Mr. David Wingate, the Government conservation officer who recently spoke of the threat development posed to open spaces, as a civil servant declined to comment on the moratorium itself. But he said: "I will simply say that I, along with the staff of Planning and Agriculture, will do my utmost to contribute to the necessary survey which happily will result in contributing to save the environment."

CSO: 5000/7540

CONCERN OVER USE OF TOXIC HERBICIDES NOTED

INC Institute's Warning

La Paz PRESENCIA in Spanish 28 Apr 82 p 9

[Text] The National Settlement Institute [INC] has warned of the serious danger involved in destroying coca plantings with toxic weedkillers, which can destroy the usability of the land for the cultivation of other farm products.

At a press conference, the executive director of the INC, accompanied by various technicians, announced the development of the programs being carried out in various zones of the country.

Speaking of the situation created recently by the campaign to eliminate coca plantings in the Chapare zone, he said that the use of toxic herbicides to eliminate the coca plants will destroy the land entirely and for a number of years, since the organic matter, the chemical nutrients and microorganisms which nitrogenize the earth will disappear, and the land could only be rehabilitated at the cost of vast investments. The use of toxic weedkillers will convert the settlement zones into veritable wastelands. These zones formerly suited to the cultivation of foodstuffs could only be rehabilitated by the transfer of humus from other unaffected regions, which would mean the loading and transportation of millions of metric tons of earth.

The INC technicians further revealed that even the pesticides used in farming have serious effects on the land, but their toxicity is not by any means as great as that of the substances used to eradicate coca plants.

Engineer Hernan Munoz Duran, director of the INC, said that the Chapare settlers who were given land and established illegal coca plantings, and who are not aware of the potential of the soil, have not been given technical aid for the raising of other crops, nor have they been aided by other bodies specializing in this field. He said that the struggle for the production [sic] of coca does not call for the institute to penalize the settler-farmer. He said that land is reclaimed only when the settler has not put the land to use. Moreover, engineer Munoz Duran said that when toxic weedkillers are used, it is the duty of the Bolivian Institute of Farm Technology to investigate the case and to deal with the possible difficulties which may occur in Chapare, both with regard to the settler-farmers and the peasants using land provided by the agrarian reform and settlement programs.

of earth to reestablish crop-growing areas necessary. In this connection, it is pertinent to make it clear that on the basis of tests carried out in Peru in connection with the destruction of coca plantings, supported by the written report of U.S. scientist Fred H. Tschirley, 2-4-D is rapidly destroyed by the action of the microorganisms in the soil, such that its residue remains for only 4 to 8 weeks.

Consequently, the crops planted after that period of time on the land where coca plantings were destroyed will be capable of normal development.

4. Also the fear that the use of 2-4-D would damage nearby crops, such as plantain or cassava, has been expressed. This fear also is without justification, because of the carefully studied and responsible method employed, involving direct application under low pressure to the basal portion of each stem, as far as the corona of the root, which is located almost at ground level. Consequently, application has been done plant by plant.

5. The fact that 2-4-D has been widely known and used in the department of Santa Cruz for years precisely as a weedkiller for crops, including sugarcane, among others, both by agroindustrial enterprises in the zone and by small farmers, is ignored. Also, other similar weedkillers would be used. As use has been made of this product year after year without detection of any harm done either to crops or to individuals, there is no logical reason to suppose that there will be any different results for the crops adjacent to the coca plantings destroyed.

6. Only limited use has been made of 2-4-D in destroying a part of the illegal coca plantings in Yapacani, and this has been virtually completed. The purpose of its use was to evaluate the efficiency and cost of using one method or another, manual or chemical, for destroying illegal coca plantings.

7. Both for the reasons mentioned, and the fact that the limited goal has already been achieved, and due to a desire to offer the public and private bodies which have made known their adverse criticisms of the use of weedkillers in the destruction of coca plantings an opportunity to confirm or revise their views in more objective circumstances, it is now being made known that there is no further project for the use by the council of 2-4-D or of any other herbicide."

Political Leader Issues Protest

La Paz EL DIARIO in Spanish 30 Apr 82 p 5

[Text] Politician Enrique Acha Alvarez has expressed his disapproval of the use of herbicides to destroy coca plantings in an open letter addressed to the president of the republic, stating that in this way, "the criticism of the conduct of the National Council to Eliminate Drug Trafficking is endorsed."

He said that "meekness and need must not be allowed to reduce us to this extreme. Even in the eras when mankind was subjected to the greatest slavery, the masters at least provided a morsel of bread and a little water. Never has it been the case as it is now in Bolivia that the slave must invest his strength and equipment in a blind obedience which humiliates and degrades the nation."

In conclusion, he said that no soil studies have been carried out in the Chapare zone so that the peasants could diversify farm production to replace the coca crops. He stressed that the INC is ready to cooperate with the bodies involved in making an economic-agricultural projection for Chapare, but that it has neither the economic resources nor the other facilities needed to carry out a task which has currently become urgent, in view of the fact that ecological problems pertaining to the land have developed on a worldwide scale, and there are few programs designed to deal with this situation.

Economic Project

Speaking of the so-called "Chimore" program the INC is carrying out in the Chapare zone, he said that the establishment phase has been completed. He noted that the INC plans to embark during this fiscal year on the economic-agricultural consolidation program, with financing from international bodies and the government bodies for support of such programs. He said that in the first phase, the INC established the basic infrastructure in Chapare, beginning with the building of schools, health stations, secondary roads, etc. He added that the IDB financed the first phase with a total credit allocation of \$6.5 million. The program began in 1965, and at present 2,500 settlers have been sent to Chapare and 5,000 have settled there spontaneously.

Narcotics Council Informs Public

La Paz EL DIARIO in Spanish 30 Apr 82 p 3

[Text] In response to reports carried in the press as well as statements issued by state and private bodies about the real scope of the use of weedkillers to destroy coca plants in the Yapacani region, the National Council to Eliminate Drug Trafficking has released a communique with the following text:

"1. Indiscriminate mention has been made of Agent Orange, Paraquat and 2-4-D as the weedkiller used to destroy clandestine coca plantings. This confusion reveals an obvious lack of information, since the first-mentioned is a defoliant, and its broad use in Vietnam earned it generalized criticism on the international level, while the second substance is a weedkiller specifically applied by aerial spraying in Mexico in order to destroy marijuana planting. Furthermore, it should be stressed that the council has never used nor will it use either Agent Orange or Paraquat.

2. The above confusion seems to have serious emotional impact insofar as the effects of any weedkiller are identified with the lethal and destructive results on all types of vegetation caused by the defoliant Agent Orange. Although legitimate, the concern expressed has no objective foundation in this connection, since 2-4-D (dichlorophenoxyacetic acid) is different in chemical composition, a fact which can be established by any public or private body interested in doing so. To this end, on written request, we will make available a suitable quantity of this herbicide for the necessary analysis.

3. It has been said that 2-4-D could produce the virtual destruction of the soil since it would not dissolve in water and would cause the organic matter to disappear, making vast investments and the movement of millions of tons

Speaking of the processes being pursued to combat drug traffic, Acha said that "the news reports tell us that our compatriots have paid the price of their very lives. Tasks and conditions have been imposed behind the backs of such a generous people as the American people, who must be ignorant that we are being harassed and humiliated in this way. Nor is it dignified for the Bolivian military to persecute men who out of hunger and need engage in the transportation of coca leaves."

He states emphatically that the most serious thing is that we are being used as guinea pigs to demonstrate that the herbicides used in Vietnam have been perfected.

Enrique Acha also criticized the economic measures promulgated by the government harshly. In this connection he said that "no one can be unaware that an economic passage has been under study for 8 months, only to change it after 30 days and then to announce that yet another amendment is being contemplated, due to the inability to float the loan. It would seem that our lack of an ocean has a negative effect even on achieving proper dollar flotation, and we are being dumped into an empty swimming pool for the second consecutive time."

On the other hand, he also said that immorality has won general acceptance. It is not found only in the most important offices nor is it a matter of partners only. "Even cousin is set against cousin, and parents and children have even developed enmity due to mutual accusations."

Finally, this open letter to President Torrelío said that "if you go ahead with the plan to allow the high military command to order changes in the assignments of the present components of the regime you head, the national conscience, that of your comrades and that of the generations to come will be obliged to offer you their gratitude. If on the other hand egotism guides your actions in this crucial hour, they will hold you responsible for what you did and failed to do."

5157

CSO: 5300/2288

HAVANA AQUEDUCT WATER LOSSES PLACED AT 40 PERCENT

Havana GRANMA in Spanish 27 Apr 82 p 3

[Text] The Institute of Water Conservation calls for greater saving of water because of the drought.

Havana (AIN)--Eng Pedro Luis Dorticos, president of the Institute of Water Conservation, reported that it is estimated that in the entire water supply system of the city of Havana, there is a wastage of 40 percent of the water, including leaks in homes and in industrial and social installations.

He said that it is essential that leaks in the network be systematically eliminated, that consumers take all possible steps to save as much water as possible so as to relieve the effects of the current drought.

He stressed that this problem facing the nation is in large part due to the fact that in 1981 rainfall was only 84.5 percent of the yearly average.

It must be pointed out, he added, that although this was the average for the entire nation, there were in fact provinces with much less rainfall as in the case of Havana City and Holguin which had only 63 percent of the average yearly rainfall. These were followed by Granma, Havana, Santiago de Cuba and Matanzas.

He pointed out that in certain areas the rainfall was less than 60 percent of the annual average. This was the case in the vicinity of Holguin, in El Valle de Guantanamo and in the north central part of Havana Province.

He added that this shortage affected the availability of water sources. In the case of surface waters, Pinar del Rio, Holguin and Granma were seriously affected, while in the subterranean basins the principal losses were primarily in Havana and Matanzas and the provinces further west.

He said that these conditions call for programming the use of a smaller volume of water which will partially affect farming in Pinar del Rio, Granma, Havana and Holguin Provinces and the national capital among others.

He said the present drought is not comparable to that of 1961-1962 since during the last 20 years, the nation has endeavored to develop its hydraulic resources.

He added that now there are 147 dams and reservoirs, in comparison to 10 at that time, with almost 6.3 billion cubic meters of dammed water in comparison with 50 million cubic meters at the time of the triumph of the Revolution.

He said this development allows us to irrigate triple the area that was irrigated in 1959 and so in reality the current drought is felt less in agriculture and livestock production.

He pointed out that an example of this is the Cauto River where--even with lack of rain--as a result of the efforts of the Revolution and human toil, at present 20 cubic meters of water per second are delivered from dams at its headwaters.

He finally reported that in the case of Havana Province, where the sources of the water supply of Havana City are located, irrigation waters for agriculture have been reduced in order to maintain the level of water supply for the capital.

9204

CSO: 5000/2112

REFORESTATION PROGRESS IN MOUNTAIN CATCHMENT NOTED

Kingston THE DAILY GLEANER in English 10 Apr 82 p 10

[Text] OVER 3,000 ADDITIONAL ACRES OF PINE PLANTATIONS in the catchment areas of the Blue Mountain aiming to increase the productive and protective vegetation cover of the region have been established by the Forest Industries Development Company Limited (FIDCO) since the beginning of its operations in 1979, FIDCO said this week.

The company in a statement through Managing Director, Mr. Guy Symes, said it welcomed the Minister of Public Utilities' "positive stance" regarding the protection of the nation's watersheds in the interest of ensuring domestic water supplies.

Will Collaborate

The company also stated that in pursuing its goal of development of commercial forestry, it wished to work in "close harmony" with the National Water Commission, and other conservation agencies, to obtain optimum utilisation of forest and land resources, while maintaining the productive capacity of the soil.

FIDCO said that it had not carried out any operations on Water Commission lands, or in the immediate catchment of the Hermitage Dam, but it stood ready to collaborate with the authorities on any programme which would increase the expansion and management of forests for multiple uses.

FIDCO's harvesting techniques are designed to remove timber with minimal disturbance of the soil, and in most cases replanting is immediate and adequate cover is replaced in 12 months, the statement said.

Minister of Public Utilities, Hon. Pearnel Charles, in a statement this week said illegal cutting of trees was to be stopped on Water Commission lands designated watershed protection areas, as this was reducing rainfall and shade.

CSO: 5000/7536

MINING COMPANY ACTS TO REDUCE AIR POLLUTION FROM DUST

Kingston THE DAILY GLEANER in English 13 Apr 82 p 15

[Text] Representatives from the Prospect/Montpelier area of South Manchester, along with Member of Parliament Arthur Williams and Councillor Kenneth Henry, met with Alpart personnel recently to discuss the problem of dust nuisance occasioned by the company's mining operation in the area.

At the meeting, which was conducted in a "very amicable manner", the company detailed the many measures already implemented to minimize the spread of dust as a result of mining.

According to a news release from Alpart, these include the constant wetting of haulage roads by sprinkler trucks and the laying of calcium chloride on the roads over which the trucks pass. This chemical attracts moisture from the atmosphere which acts as a damper on the road surface.

The company said that whenever a mining area becomes particularly dusty through dry weather and high wind, mining operations are usually suspended in that area until the weather improves.

The community delegation complained of the dust that comes from the stockpile of topsoil, stored by the company for rehabilitation of the land after mining has been completed.

The company promised to explore measures to reduce the dust from these stockpiles.

In response to a question from Mr. Williams, the company spokesman described the programme of compensation undertaken by the company for many years, which offered a monetary compensation to those households whose complaints of dust nuisance were ratified by company investigators. At present, Alpart was paying out some \$14,000 per month to residents of the Essex Valley so affected.

The Mining Department also provided casual employment to some of these neighbouring residents on a rotating basis.

At the close of the meeting, Mr. Williams thanked the company for meeting with the delegation and expressed the hope that the goodwill that existed between Alpart and its neighbours would always continue.

MEXICO

REMAINS OF 79 PERSONS FOUND NEAR CHICHONAL VOLCANO

Mexico City EXCELSIOR in Spanish 25 Apr 82 pp 4-A, 34-A

[Article by Porfirio Dias Lopez]

[Text] Pichucalco, Chris., 24 Apr--Army rescue teams have found so far 79 calcined bodies near the Chichonal Volcano and are continuing the search for more victims.

None of the bodies--which were cremated today--could be identified, according to representatives of the Public Ministry, Ricardo Cruz Carriles.

Mayor Manuel Carballo said that the rains of the last few days caused the bodies which were buried by sand and ash to be uncovered.

As the activity of Chichonal was reduced to sporadic eruptions, the troops of rescuers proceeded with their work more easily.

In their searches, the military have also located hundreds of calcined cattle.

The inhabitants of Pichucalco started to rebuild their houses with material which the government has supplied them.

Visibility in the region is already almost normal. The rains have cleared the atmosphere.

Francisco Nunez Lopez, a state government spokesman, said that next Tuesday the secretary of agriculture and water resources, Francisco Merino Rabago, and Governor Juan Savines Gutierrez will be interviewed in Mexico City to evaluate the damage caused by the eruption of the volcano in the municipalities of the area.

9678

CSO: 5000/2118

UNWISE FOREST EXPLOITATION AFFECTS VERACRUZ SPRINGS

Mexico City EXCELSIOR in Spanish 20 Apr 82 p 7-D

[Article by Jose L. Hernandez S., correspondent for EXCELSIOR]

[Text] Jalapa, Veracruz, 19 Apr--Unwise cutting of forests in the Cofre de Perote zone has dried up springs that used to provide water for the cities of Jalapa, Perote, Teocelo, Coatepec, Las Vigas, Altotanga, Jalatzingo, Villa Aldama and other small towns.

The secretary of the Committee for the Protection of Forest and Water Resources, Manuel Rivadeneira, said that "the zone, once rich in forest and water resources, is now a wide, barren area where not even grass will grow."

He added that as much is being asked of the state government as of the federal government for total suspension and cancellation of permits for forest exploitation in Cofre de Perote in order to avoid greater evils to the ecology and destruction of non-renewable natural resources.

And what is more, the official said, the presence of the army is being requested to safeguard the zone. No more trees should be felled and penal sanctions should be applied to woodcutters and corrupt authorities who allow sawmills to be there.

He explained that Cofre de Perote "is a natural protection zone for the important cities in the area and cutting down trees changes the climatology, hydrography and fertility of the lower lands."

9908

CSO: 5000/2113

IVORY COAST

BRIEFS

FORESTLAND DISAPPEARING--The director general of SODEFOR [Forestry Development Company] has stated that the Ivorian forest is disappearing at an annual rate of 400,000 hectares and from 10 million hectares in 1960 has decreased to only 3 million hectares today. The main culprits are peasants who start fires to clear farm land and the timber companies who cut the trees for export. The timber industry employs 45,000 workers. Established in 1966 with the aim of planting 10,000 hectares a year, SODEFOR has since managed to plant only 5,000 a year. [Summary] [Abidjan FRATERNITE MATIN in French 27 Apr 82 pp 1, 11]

CSO: 5000/5750

SADCC NATIONS 'MUST WIN WAR FOR WATER'

Harare THE HERALD in English 10 May 82 p 7

[Article by Todd Ngara, Chief Meteorologist, Dept of Meteorological Services]

[Text] **THE current drought in Southern Africa is not a new phenomenon in the region or in the African continent. The well-known recurrent Sahel drought (1968-74) claimed about 100 000 lives. It also ruined the shaky economies of the affected Franco-phone states.**

Drought ranks among mankind's natural arch-enemies. An extreme drought can threaten the existence of whole nations. Recurrent drought in the 1970s left a legacy of crop failures, decimation of livestock and high inflation. Since the Sahel drought, the international economy as well as world news is now strongly influenced by climatic events.

Drought has many definitions depending upon water or rainfall usage. Some drought indices are rainfall, air temperature, humidity, evaporation, soil moisture, wind, stream flow and plant condition.

However, rainfall is the paramount single index influencing the incidence of drought. Practically all drought definitions use

this parameter either singly or in combination with other weather elements. In Southern Africa, rainfall scarcity is taken as the major criterion for drought incidence.

Possible causes of drought are varied and controversial. Meteorologists usually explain drought in terms of abnormal atmospheric circulation patterns with subsidence over the region affected by drought.

The Botswana Upper High is the Southern African example of such a synoptic situation. It causes dry weather mainly over Matabeleland and Botswana.

It seems likely that these meteorological abnormalities are explicable in terms of physical forces and restraints which determine large-scale atmospheric flow patterns. Superimposed upon these broad-flow patterns are regional and local factors. The outcome of this superimposition is the drought we discern.

There are some who believe that drought occurrences are rhythmic and therefore predictable by statistical methods. Another school of thought believes that injection of ash and dust into the atmosphere alters the earth's radiation balance. This al-

teration creates compensating circulation adjustments which in turn induce climatic fluctuations. There are also substantial reasons for believing that since atmospheric gases (carbon dioxide, water vapour and ozone) are selective absorbers of terrestrial radiation, they could also modify the heat balance of the earth. This process is effected through the much discussed "greenhouse effect".

Southern Africa has been experiencing occasional droughts ever since

rainfall records began. The current 1981/82 dry spell has been one of the worst. From Namibia to Mozambique and from the Transkei to Zambia, the landscape is invariably characterised by withering crops, dried-out riverbeds and lean cattle.

This drought situation has already cost South Africa the equivalent of more than one billion US dollars in crop and stock losses. The politically disgruntled blacks in South Africa will be at an even greater disadvantage because of the food and water scarcity in their "homelands".

In Mozambique only emergency food aid can save 500 000 people from starvation. In Namibia, already US\$60 million has been spent on drought relief. A similar situation also prevails in Angola.

This dearth of rain has dashed Zambia's hopes of self-sufficiency in maize production. Cattle herds in Botswana — a meat exporter — are being decimated by drought and the Botswana Meat Commission is reportedly slaughtering 1 200 cattle a day. This situation presents a grim economic picture for the Southern African Development Co-ordination

Conference (SADCC) countries.

It is only proper to describe the history and effects of drought in Zimbabwe since it is the headquarters of the SADCC food secretariat. The London Missionary Society first took Zimbabwean rainfall records at Hope Fountain in 1888. Since then, the worst droughts remembered are the consecutive dry spells from 1911-1914, the 1946/47 drought and finally the 1972/73 rainy season which was the driest on record. The average rainfall for that season for the whole country was

388.6 millimetres—57 percent of normal rainfall. During this drought, losses in livestock and crops were greater than ever before. This can be accounted for partly by the high magnitude of the climatic disaster and also partly by the then diversified and expanded human activities.

The following agricultural statistics (commercial sector only) cast some light on the effect of the 1972/73 drought: An average yield of 1 500 000 tonnes of maize was slashed to 800 000 tonnes; sorghum yields were reduced to 60 percent of normal despite a three-fold increase in planted acreage, and tea yields fell from 1 400 kg per hectare to 1 100 kg.

The full effects of the 81/82 drought on Zimbabwe's economy are not yet known but they are bound to be alarming. Zimbabwe will find it harder to contract new exports. The

national herd will be seriously depleted. It is also possible that there will be domestic shortages of beef when the present emergency slaughtering is over. This dry spell will also weaken Zimbabwe's position as the "bread basket" of the SADCC countries.

This drought will force most black states in Southern Africa into a position where they have no option but to seek mere assistance from the "good Samaritans" — the international consortium of rich nations.

These rich nations will only be too willing to "help" since, by exporting food to Southern Africa, they will be reducing their food storage costs and also stabilising markets for their farmers. This situation is exacerbated by the fact that colonial powers never intended to develop the economies of their colonies to a point of self-sufficiency or capacity to face national disasters. Instead, their primary objective was to develop the facilities for exploitation of raw materials which would be, thereafter, shipped to Europe. The epitome of the situation is that the SADCC states may have sham economic independence appendaged to political independence. So it could become a case of neo-colonialism revisiting Southern Africa.

In keeping with one of the objectives of SADCC countries — self-sufficiency in food production — long-term solutions to the food problem must be found. Zimbabwe, as the headquarters of the SADCC's food co-ordinating secretariat, should create a regional centre responsible for co-ordinating research on plant breeding of traditional food crops (sorghum, millets, legumes, oil seeds and rootcrops) with the aim of developing species less susceptible to climatic vagaries.

Mere growing of more food with poor methods of preserving it will not solve the problem. Therefore, at such a centre, research on

the best methods of handling food from harvest time to consumption should also be given priority. This helps to minimise food losses through pests,

waste, poor processing and distribution.

This regional centre should also liaise with hydrological departments in each member country in finding suitable sites for dam construction along the major rivers (Zambezi, Limpopo, Luangwa, Shire and others) of Southern Africa. Water from these dams should irrigate large tracts of land for food production. Further, feasibility studies for turning the Okavango and Makgadiadi swamps in Botswana into productive rice fields should be conducted. At the same time the significance of subsequent environmental impacts should be closely studied.

The proposed centre should also house a regional climatological data bank in order to facilitate research on applied climatology.

This data of climatic elements — rainfall, temperature, humidity, wind speeds and direction, cloudiness, evapotranspiration, solar and net radiation, river flow and soil moisture — should undergo a rigorous statistical-physical analysis with the objective of predicting the abundance or scarcity of rain. The functions of this centre should also include preparation of water budgets, soil-moisture measurements and improvement of techniques of cloud seeding and hail suppression — so as to maximise the overall output.

Hitherto, SADCC countries have been making economic plans without taking climatic fluctuations into account. With the regional climatological centre in full operation, the concerned states should be able to make more realistic economic plans. Creating such a centre would be expensive, but if the costs were borne by all the partners, the accruing results would benefit all and sundry.

DROUGHT AID LAUNCHED BY KANGAI

Harare THE HERALD in English 7 May 82 p 1

[Text]

BULAWAYO.

THE chairman of the Cabinet Committee for Drought Relief and Minister of Labour and Social Services, Mr Kumbirai Kangai, yesterday made a flying visit to Binga to launch the Government's food aid to drought-hit Matabeleland.

This came exactly nine days after Matabeleland North — with 882 723 people waiting for assistance — led the province in making an urgent application for Government relief aid.

Meanwhile, it is reported from the Shurugwi area that more than 21 000 people will need food relief by the end of the month.

With Mr Kangai was the chairman of the Matabeleland Drought Relief Committee, Mr J. F. Mudenda, and the provincial social services officer for Matabeleland North, Mr P. G. W. Ball.

In an address to local councillors, the minister outlined the manner in which distribution would be carried out.

He said there were 20 tonnes of maize already in Binga.

Supplies would be moved from Bulawayo to Binga and then to distribution points in various wards of the district.

Government would provide transport to move supplies to distribution points.

Transport would be drawn from the fleet of the District Development Fund, supplemented by trucks from the CMED, if necessary.

He ordered that the councillors move swiftly to get the food already in Binga to the people.

"I expect this work to be finished within the next three days," he said.

Mr Mudenda told the minister that there were 375 160 people in need of relief aid in the district.

In an interview later Mr Kangai said the Government had not finalised how much it would cost to provide food aid to the people of Matabeleland.

The minister said the question of money should

not hamper or delay the movement of food to the needy.

It is understood that transportation of supplies is to be stepped up during the next few days and that Inyathi is to be the next area to join Binga in getting aid.

About 28 percent of people living in the Shurugwi district will need food aid by the end of the month, a spokesman for the drought relief committee in the area has said.

According to figures given to the district administrator, Mr Ramson Mbetu, by the committee, 6 253 adults and 15 705 children will be in need of assistance by the end of this month.

Mr Mbetu said about 70 000 people live in the area, owning about 38 000 head of cattle. Although authorities were urging the people to sell their cattle, they were reluctant to do so because they would have no animals next year. — Herald Correspondent-Herald Reporter.

LUTHERAN WELL PROJECT EASES DROUGHT IMPACT

Harare THE HERALD in English 11 May 82 p 9

[Text] A LUTHERAN World Federation project aimed at providing well water for rural people in Matabeleland is proving of great value—especially now that many parts of the province have been hard hit by drought.

As a result of the LWF project 70 wells have been sunk and more than 150 are under construction in the Matabeleland districts of Gwanda, Mwenzi, Zvishavane, Beitbridge and Mberengwa. The target is 1 000 wells by the end of 1984 and water for half a million people.

It all began in 1980 when some Zimbabwean women forwarded to the LWF headquarters in Geneva a request for assistance.

The LWF sent out Mr Piet te Velde from Holland to carry out a survey and recommend what form the assistance should take.

Lutheran Church pastors made contact with local community leaders who became involved in the survey, which soon showed that there was a dire need for good water supplies, particularly in the Matabeleland South area.

The LWF set about raising money for the aid project. Some US\$600 000 was given by donors scattered throughout the world and the initial step — sinking wells in five districts — was taken.

But why wells and not boreholes?

"Wells can be sunk and maintained quite easily, something which can be done by local people," Mr te Velde explained. "This means that well-digging gives employment to local people while boreholes are sunk by big companies which bring their labour force with them from the big cities."

These, however, are not the only reasons why the LWF prefers wells to boreholes and big dams as Mr te Velde explained:

"There are many Zimbabweans with mining and blasting experience which they can use to sink wells.

"Those without experience can be taught in one month and the materials used are not very expensive while boreholes require expensive equipment which eats away foreign currency.

"Other advantages of wells are that they usually have a bigger storage capacity and should a well dry up it can always be deepened by the local people themselves whereas a borehole cannot."

Another important aspect of the well-digging programme which the LWF encourages is self-reliance and a feeling of identification with the project by the locals. "The people feel that wells are theirs. They are the visible fruit of their own labour and initiative." — Ziana.

CSO: 5000/5747

BRIEFS

IMMUNISATION PROGRAMME--The Ministry of Health is soon to embark on a programme of immunisation in the Shurugwi Communal Area, the Midlands Provincial Administrative Officer in Gweru, Mr Chipu Bonga, said in Shurugwi yesterday. There were plans to upgrade some clinics in the area, to improve the quality of their water supplies and to give assistance to communal people in building toilets. The immunisation programme was aimed mostly at the under fives who would be vaccinated against TB, diptheria, tetanus and whooping-cough. A rural health centre at Chikato which was being built with funds from the Ministry of Health, was nearing completion. The other major health programme which was being carried out in the district was the upgrading of two clinics at Gundura and Nhema, he said. There were also plans to carry out an inventory at all clinics in the area in order to find out what equipment was needed so each could be self-sufficient.--ZIS. [Text] [Harare THE HERALD in English 6 May 82 p 4]

POISONED BIRDSEED--Bulawayo. An exercise to try and isolate the grain which poisoned hundreds of cage birds in Bulawayo is going on in two laboratories in Harare. National Foods Limited, which supplied the composite birdseed mixtures, contaminated with the poison dielbrin, have withdrawn all seed from their distributors. A company spokesman said the enormity of the tests was "mind-blowing". "It is probably just a small part of the seed we have acquired that has been sprayed with dielbrin." [Text] [Harare THE HERALD in English 11 May 82 p 9]

CS0: 5000/5747

BRIEFS

ARMENIAN ENVIRONMENT PROTECTION--Various measures are being taken to protect the environment in the Armenian SSR. One of the most recent measures is the move to increase the water level of Sevan. Due to the operation of the Arpa-Sevan water pipeline in 1981, the quantity of water in Sevan increased by 250 million cubic meters. There is also a plan to transport 200 million cubic meters of water from Vorotan and an additional 20 million cubic meters of water from Arpa to Sevan. Due to the measures taken, Sevan will receive 470 million cubic meters of water annually. The water volume of Sevan by 1985 will increase by 1.2 billion cubic meters. [Yerevan International Service in Armenian 1900 GMT 27 Apr 82 GF]

CSO: 5000/2116

ADAPTED FILTER TECHNIQUE INCREASES CLEANING CAPACITY IN REIMS

Paris L'USINE NOUVELLE in French 15 Apr 82 p 128

[Article by Marie Canard: "Classic Methods for a Model Plant"]

[Text] At the Chausson Works in Reims effluents containing metallic salts are treated by two different series of operations, depending on the kind of salts. Their detoxification is in this way assured for the immediate future while the possibility of recovering the metals at some future time is reserved.

Very classic in terms of basic techniques, the filtering plant for the Chausson Works in Reims has just received the Higher Council for Rated Plants prize. But it is noteworthy for its overall design, in particular a selective catch basin for effluents, and for the amount of the investment: 7.5 million francs! After a year of operation, the technical balance sheet is quite positive. The effluents, whose volume they have managed to reduce from 300 cubic meters per hectare to 120, fall quite easily within the limits set by the ministerial memorandum: Their pH is between 7.5 and 8.5, the level of suspended materials is about 16 mg per liter, that of heavy metals less than 5 mg per liter and the fluoride content 8 mg per liter on the average. Previously, the pollution level was at least five times higher than the limits set. Effluents dumped into the sewers of Reims were treated at the municipal filtering station, then emptied into the Vesle.

The Chausson Works in Reims manufactures heat exchangers destined essentially for the automobile industry. Employing 1,500 people, it produces about 1,800 radiators a day. These are of two types: heavy, made of steel, copper and brass, and light, made chiefly of aluminum. In both cases, the brazing of the unit after the parts have been assembled requires the use of products to facilitate welding (fluxes). After brazing, the equipment is scoured and washed. There are several different sources of pollution which are due to these products of brazing, degreasing, scouring and washing.

With the cooperation of the FAIRTEC [expansion unknown] Company, in 1978 Chausson conducted a study to draw up a report on the original situation and determine a general plan for collecting and treating residual water from the plant. The first objective was to lower the volume from a rate of flow of 300 cubic meters per hectare at the point of origin. The recycling of water used for cooling, the reuse of water from certain baths and the installation

of flow limiters made it possible to bring water consumption down to 120 cubic meters per hectare. On the basis of such a rate of flow, filtering becomes much more economical. Furthermore, they set their sights on more than simple filtering. That is why they decided to separate different sediments, depending on how rich they were in zinc or copper, to be able to possibly upgrade these by-products of the metallurgical industries. This is at present not yet possible, given the high cost of refining these metals, but with changing economic conditions they have not given up hope of doing so one day.

The collecting and treatment plant built by Degremont therefore consists of two specialized collecting lines that lead to recovery ditches from which the effluents are then pumped and channeled to the detoxification station. The filtering process consists of the stages of neutralization of cast-off acids, decantation and treatment of sediments. Only this last stage is conducted in a common device that operates alternately for one or the other line of treatment. Of the two lines, the one that produces sediments rich in copper and aluminum is in constant operation.

Dehydration of Sediments Is Entirely Automatic

A Turbactor reactor renders the metals insoluble through the addition of whitewash. This reactor offers certain advantages in comparison with a conventional set-up. Completely enclosed, it does not give off any noxious fumes, overloading is reduced because the time the effluent is in contact with the reactor is shortened and, lastly, maintenance is practically nonexistent (there are no moving mechanical parts). With the addition of a flocculation adjuvant, the treated effluent is delivered to a lamellar decanter which, thanks to plates that speed up the decantation process, guarantees high processing speeds (5 to 6 meters an hour). The sediments recovered at the bottom of the decanter are stored and checked (pH) in a "sediment storer" before being dehydrated. The other line, which provides sediments rich in zinc, is in operation only 4 or 5 hours a day. The used liquid from the baths is collected nights in a ditch and treated days in the same ditch with whitewash. The effluent is then pumped to a cylindrical-conical decanter. Sediments rich in zinc are stored at the bottom of the decanter.

The final stage of treatment: dehydration of the sediments. This is accomplished by means of a rotary filter press of an original design perfected by the Ghoquenet Company and this is its first industrial application. Operation is entirely automatic (filtering, drying, expulsion of sediments). The filtering time is reduced to only a few minutes since the cakes are only from 5 to 8 mm thick so that the filtering surface is only 7 square meters as against 120 for a conventional filter press with the same capacity. At the present time the sediments produced are shipped to a dump for industrial products. The depollution station enables us to recover 150 tons more of metallic products a year than before.

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CSO: 5000/2115

FOREST USE REPORT ADVOCATES IMPROVED MANAGEMENT, MODERNIZATION

Summary of Report

Paris LE MONDE in French 4-5 Apr 82 p 13

[Text] On Friday, 19 March, Roger Duroure, the socialist deputy from the Landes region, submitted to Pierre Mauroy a report which Mr Mauroy had asked him to prepare. This report, entitled "Proposals for a Comprehensive Forest-Wood Industry Policy," is essential in "creating a major program for our forests and wood industry." The issue is a matter of importance for, with 14 million hectares, our forests cover a fourth of our national territory and produce 37 million cubic meters of wood a year, employing, along with related industries, 650,000 people. Even so, these resources are so mishandled that the deficit in our foreign trade in wood, furniture, pulp and paper amounted to 12 billion francs in 1981.

For 7 years, report has followed report, without bringing about any improvement in the situation, which has actually deteriorated. This time, after 6 months of consultations and work, Mr Duroure has prepared a bulky, 145-page document, stuffed with technical proposals which, even before it was completed, stirred up a storm of controversy (see LE MONDE, 4 Dec 81, 26 Jan and 9 Mar 82).

Its basic premise is that there can be no forestry policy without industrial outlets, just as there can be no wood industry policy without abundant and regular supplies. Everything is interrelated. According to Mr Duroure, our forestry resources (which include both forests and industry) must be covered by a "purposeful, coherent, and comprehensive policy."

This policy should focus on four parallel axes: improvement of forestry management, modernization of industries, market organization, and the creation of new structures, under the authority of a forestry ministry.

Improving Private Forest Management

The Duroure report makes the following proposals:

- a. To extend the authority and resources of the CRPF [Regional Forestlands Centers]. These centers would be given responsibility for the preparation and follow-up of simple management plans, which would be obligatory for any landowner with over 25 hectares held as one parcel of land.
- b. To make management plans obligatory even for owners of several parcels of forest lands, and establish these plans for 20 years instead of 10.
- c. In case a forest parcel is sold, to give the right of preemption to a state organization or to local communities.
- d. To recombine forest parcels that have been broken up, and give local communities the right to take over parcels left without owners.
- e. To reform forest tax legislation (transfer taxes, taxes on large fortunes, and income taxes) in order to encourage the most dynamic landowners. The standard fee system of taxation could be replaced by a tax on real profits, as is done abroad.

For publicly owned forests, the report's author praises the ONF [National Forests Office] which, over a period of 16 years, "has very largely compensated for the historic lag in the management of national forests." He suggests that the ONF should continue its construction of roads in the forests, accelerate the conversion into timberlands of 800,000 hectares of brushwood, and establish development plans for all public forests between now and 1995. Although forestry personnel should maintain their orientation and training as biologists, they should also acquire some basic knowledge in the areas of transformation industries, markets, and marketing.

Organizing Wood Markets

Mr Duroure's proposals for this area are:

- a. To get wood out of the forests by giving public organizations the responsibility to open up access and service roads, after a statement of public utility has been prepared, and expropriation, if necessary.

- b. To increase sales of finished woods, as is done in Alsace, instead of standing timber.
- c. To increase the number of "resource and industrial needs commissions," which have been tried out in recent years, in order to regulate markets.
- d. To set classification standards for woods and draft standard contracts between landowners and tree-felling industries.
- e. To seek new formulas for wood sales by means of agreements between producers, operators, and users.
- f. To encourage the signing of regional inter-occupational agreements.
- g. To create a national organization to encourage the signing of these agreements and monitor their application.
- h. To create a "national economic organization," which could send representatives abroad to explore and win foreign markets.

Modernizing the Wood Industry

Mr Duroure's proposals for modernization encompass these points:

- a. To develop and regionalize (by opening up local branches) the Technical Paper Center in Grenoble, the Tropical Forestry Technical Center in Nogent-sur-Marne, and the Technical Wood Center in Paris.
- b. To create "regional support centers" for wood industries which would bring together representatives of chambers of commerce, education, and forestry representatives, both public and private.
- c. To maintain and modernize the pulp, paper, and cardboard industries by increased government intervention. This would mean investing 20 billion francs over a period of 15 years, and possibly reorganizing enterprises. According to Mr Duroure, "nationalizations today give the state direct or indirect control of a large part of our paper industry."

- d. To consolidate and develop the panel and wallboard industry "by bringing up to European dimensions the best placed units," by combining industries, and by working against dumping by foreign producers.
- e. To concentrate state aid for sawmills in regions which really need it: the southeast, Brittany, the Limoges area, and the Landes highlands.
- f. To encourage the PTT [Postal and Telecommunications Administration] and EDF [French Electric Company] to program their purchases of poles over a period of several years, and to encourage the SNCF [French National Railroads] to do the same for its purchases of wood to be used on railroad tracks.
- g. To bring order into the furniture industry by regulating the labelling of products offered to consumers, and by expanding the financial resources of the CODIFA [Committee to Develop the French Furniture Industry].

In order for these reforms to be implemented and to bring about their planned effects, Mr Durore suggests that we give the wood industry political resources, that its personnel be increased, and that its financial resources also be improved. In his view, we should establish:

- a. In Paris, an independent ministry with three departments: one to manage budget funding and personnel; one forestry department to oversee the ONF and the regional forestry centers; and one department of industries and wood markets (this is now attached to the ministry of industry).
- b. In the regions, there should be regional forestry departments combining the present regional forestry development services, to be assisted by "technical support groups," and advised by regional forestry commissions, to be composed of all the professionals involved in this sector.
- c. In the departments, there should be departmental forestry directors who would work with ONF personnel and forestry experts from the departmental offices of agriculture, and with a "forestry police" brigade.

The report estimates that over the next 15 years we should recruit over 7,000 engineers, technicians, and management and administrative personnel. The total amount of additional public aid that should be allocated to the various sectors of the wood industry is estimated at 1 billion francs per year over a 15-year period.

In order to finance this program, Mr Durore has made a number of proposals, including the following:

- a. To increase the government funding allocated to the forests; it now stands at 836 million francs a year.
- b. To improve the collection of taxes and fees supporting the national forests fund in order to increase its yield by 25 percent. This would enable us to maintain a rate of coniferous plantings of 35,000 hectares per year.
- c. To extend to all the departments the green spaces fee to finance public shelters and amenities in forests.
- d. To create four new fees to finance the clearing of undergrowth, fire-fighting equipment maintenance, and anti-erosion programs in the mountains. The latter fee would be collected from the sale of ski equipment and ski-lift fees.

The Durore report also examines special problems of the Mediterranean forests, the Guyana forests, and forestry research. On the first point, the report states that the development of our southern forests is dependent on the opening up of 7,800 kilometers of roads over a 20-year period, and the replanting of about 325,000 hectares, both in commercially productive wood plantings and in anti-erosion and landscape plantings. For Guyana, whose 8 million hectares of forest are "very poorly used," the report advocates an overall development plan and the intervention of a "powerful industrial operator," which could be "one of the major nationalized groups." Finally, the report suggests hiring 150 scientists over the next 5 years.

If all these proposals were to be accepted, Roger Durore feels that in [number illegible] years, the annual wood harvest would increase by 25 percent (9 million cubic meters in additional wood resources), that 50,000 to 60,000 jobs would be created, and that the deficit in our foreign trade could be reduced by 4 billion francs. "The plan proposed," he says, "may seem ambitious. But because of the extent of the problems, it is no more than what we need."

Reactions to Report

Paris LE MONDE in French 7 Apr 82 p 26

[Text] The report drafted by Roger Duroure, the socialist deputy from the Landes, which has just been submitted to the prime minister--a report proposing a new policy for our forest and wood resources (see LE MONDE of 3 April)--has already drawn reactions and comments. It is true that these reactions in many cases actually preceded the final version of the document for, after many earlier reports, the work done by the parliamentarian suggests applying to French forests and wood industries a real shock treatment. He was so bold as to dare to tamper with the taboo protecting untouchable industries, proposing to create "an independent political authority," in other words, an independent forestry ministry.

Mr Duroure openly takes a pro-production stance. He wants to remedy the problems of our national forests and the difficulties of our wood industries. Even though he says in the beginning of his report that, of the 14 million hectares of woodlands in France, he would disregard development of 5 million hectares of protective forests and "nonproductive formations," he has already been attacked by the environmentalists.

The FFSPN [French Federation of Nature Protection Associations] has just published a lengthy analysis of the Duroure proposals, in which it states its fears "about the narrow concept of forestry management which these proposals express." "The essential part of the policy advocated is based on the production of wood pulp and paper, ignoring environmental concerns, particularly the protection of our biological heritage."

The FFSPN cites as an example the proposals about the opening of new forest roads (7,800 kilometers for the 14 departments in the Mediterranean area), even though no evaluation of the environmental impact of this equipment has been made.

These concerns are similar to those of some elected officials, such as Marcel Vidal, senator and general council member from Hérault (socialist), who recently wrote the prime minister to protest the ONF's road policy. "I recently observed the damages following the opening of a road in one of the most beautiful mountain regions of our department, la Seranne."

The ONF staff members are concerned too, about the future of their profession and their "company." "Are we going to become

forest-wood factory employees?" some of them are wondering. Even though Mr Duroure was careful to point out that "ONF should be left with the greatest possible autonomy in its management," some people do fear that in practice, this freedom, which has been the privilege of the ONF since it was first established in 1966, may be considerably diminished.

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